




UNIVERSITY OF  
ILLINOIS LIBRARY  
AT URBANA-CHAMPAIGN  
AGRICULTURE

NOV 19 1990  
AGRICULTURE LIBRARY



Digitized by the Internet Archive  
in 2011 with funding from  
University of Illinois Urbana-Champaign

Il 6  
1986

AUT

42A-18

DP-2

TITLE NO.			ACCOUNT NO.	LOT AND TICKET NO.
-----------	--	--	-------------	--------------------

-060000086	9200-120	PB 12-	18.70
------------	----------	--------	-------

CLOTH COLOR

HEIGHT

## CHARGING INFORMATION

### SPECIAL WORK AND PREP

STUBBING		FRONT COVER		HAND ADHESIVE		MAP POCKET PAPER	
HAND SEW		NO TRIM		LENGTHWISE		MAP POCKET CLOTH	
THRU SEW		PAGES LAMINATED		FOREIGN TITLE		SPECIAL WORK	
THRU SEW ON TAPE		EXTRA THICKNESS		LINES OF LETTERING		REMOVE TATTLE TAPE	

HEIGHT	PICA	WRAP

report

University of Illinois at Urbana-Champaign

AGRICULTURE LIBRARY

OCT 18 1988

UNIVERSITY OF ILLINOIS

DISK--A901030 REC.-150 FONT-1/214 PAGE- 150  
FORU/  
-0000.0000 07200--42A CM 32-- 18 M1  
ILLINOIS\*WEED\*CONTROL\*RESEARCH\*REPORT\*

43-24 1986\*  
42-28

632.58\*116\*

1986\* (NO CODE)

0017 CALL # IS I SMALL L6 NOT I16\*  
FOIL- WHITE

01AGX4

00 000

11

6

Q-3/4

FORU/

632.58

AGIX

IL6

1986

42A-18

1986

Illinois

# Weed Control Research Report

Department of Agronomy  
University of Illinois at Urbana-Champaign

AGRICULTURE LIBRARY

OCT 18 1986

UNIVERSITY OF ILLINOIS



ACKNOWLEDGEMENT

WE WOULD LIKE TO RECOGNIZE AND THANK THE FOLLOWING INDIVIDUALS FOR THEIR ASSISTANCE WITH THE U OF I WEED SCIENCE FIELD EVALUATION PROJECT DURING 1986. THROUGH THEIR COOPERATIVE EFFORTS THIS PUBLICATION IS MADE POSSIBLE.

RESEARCH CENTER SUPERINTENDENTS

WILLIAM H. BRINK (BROWNSTOWN)  
MICHAEL J. MAINZ (MONMOUTH)  
M. GENE OLDHAM (URBANA)  
LYLE E. PAUL (DEKALB & ELWOOD)  
GLENN A. RAINES (ORR)

RESEARCH CENTER FARM FOREMEN

JAMES L. CARTER (BROWNSTOWN)  
DALE E. HARSHBARGER (ELWOOD)  
DAVID R. LINDGREN (DEKALB)  
MICHAEL E. PLOTNER (URBANA)  
J. JAY SUTOR (MONMOUTH)

SECRETERIAL STAFF

KAY SAWYER  
JEAN CRESWELL

GRADUATE STUDENTS

THOMAS H. BECKETT  
JOHN R. CANTWELL  
ROBERT J. FIELDING  
ROGER E. GAST  
MICHAEL J. HORAK  
FRITZ K. KOPPATSCHKE  
MARK M. LOUX  
LARESA W. PORTER

U. OF I./U.S.D.A. TECHNICAL STAFF

HAROLD S. BUTLER  
WILLIAM S. CURRAN  
DAVID R. PIKE  
RICHARD E. STEVENS

STUDENT WORKERS

THOMAS J. KLADAR  
JAMES H. PETERS

SINCERELY,

ELLERY L. KNAKE, PROFESSOR OF WEED SCIENCE  
REX A. LIEBL, PROFESSOR OF AGRONOMY  
MARSHAL D. MCGLAMERY, PROFESSOR OF AGRONOMY  
EDWARD W. STOLLER, PROF. OF PLANT PHYSIOLOGY, USDA-ARS  
LOYD M. WAX, PROF. OF PLANT PHYSIOLOGY, USDA-ARS  
MICHAEL S. ORFANEDES, RESEARCH AGRONOMIST



ACKNOWLEDGEMENT

SPECIAL THANKS TO THE FOLLOWING ORGANIZATIONS FOR THEIR SUPPORT AND COMMITMENT TO THE WEED SCIENCE PROGRAM IN THE DEPARTMENT OF AGRONOMY AT THE UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN:

UNIVERSITY OF ILLINOIS AGRICULTURAL EXPERIMENT STATION

AMERICAN CYANAMID COMPANY

BASF WYANDOTTE CORPORATION

CHEVRON CHEMICAL COMPANY

CIBA-GEIGY CORPORATION

DOW CHEMICAL COMPANY

E.I. DUPONT DE NEMOURS AND COMPANY

ELANCO PRODUCTS COMPANY

FMC CORPORATION

GRIFFIN CORPORATION

HOECHST-ROUSSEL AGRI-VET COMPANY

ICI AMERICAS INC.

MOBAY CHEMICAL CORPORATION

MONSANTO CHEMICAL COMPANY

NOR-AM AGRICULTURAL PRODUCTS, INC.

PPG INDUSTRIES, INC.

RHONE-POULENC INC.

ROHM & HAAS COMPANY

SANDOZ CROP PROTECTION CORPORATION

SHELL DEVELOPMENT COMPANY

STAUFFER CHEMICAL COMPANY

TERRA INTERNATIONAL, INC.

UNION CARBIDE AGRICULTURAL PRODUCTS COMPANY, INC.

UNIROYAL CHEMICAL

VELSICOL CHEMICAL CORPORATION

VERTAC CHEMICAL COMPANY



TABLE OF CONTENTS

	Page
INTRODUCTION .....	1
URBANA RESEARCH CENTER	
CORN PREPLANT INCORPORATED GRASS STUDY .....	2
CORN PREEMERGENCE GRASS STUDY I .....	4
CORN PREEMERGENCE GRASS STUDY II .....	7
CORN PREEMERGENCE GRASS STUDY (GRANULAR FORMULATIONS) .....	10
CORN PREEMERGENCE BROADLEAF STUDY .....	12
CORN POSTEMERGENCE BROADLEAF STUDY I .....	15
CORN POSTEMERGENCE BROADLEAF STUDY II .....	19
CORN POSTEMERGENCE GRASS STUDY .....	23
POST-DIRECTED CORN STUDY .....	26
CULTIVATION AND POST-DIRECTED POAST FOR GIANT FOXTAIL CONTROL IN CORN .....	28
EARLY PREPLANT CORN STUDY .....	30
NO-TILL CORN WEED CONTROL STUDY I .....	35
NO-TILL CORN WEED CONTROL STUDY II .....	38
NO-TILL CORN WEED CONTROL STUDY III .....	43
SOYBEAN PREPLANT INCORPORATED/PREEMERGENCE STUDY .....	48
SOYBEAN PREEMERGENCE STUDY I .....	53
SOYBEAN PREEMERGENCE STUDY II .....	57
SOYBEAN PREEMERGENCE/POSTEMERGENCE BROADLEAF STUDY .....	62
SOYBEAN PREEMERGENCE/POSTEMERGENCE GRASS STUDY .....	67
PURSUIT APPLICATION METHOD VS. RATE, ALONE AND COMBINED WITH GRASS HERBICIDES .....	71
POSTEMERGENCE APPLIED PURSUIT WITH BASAGRAN AND BLAZER .....	75
ADDITIVES TO CLASSIC .....	79
ADDITIVES TO DPX-M6316, CLASSIC, AND DPX-M6316 + CLASSIC TANK MIXES (WITH SURFACTANT) .....	82
ADDITIVES TO DPX-M6316, CLASSIC, AND DPX-M6316 + CLASSIC TANK MIXES (WITHOUT SURFACTANT) .....	85
LATE APPLICATION OF DPX-M6316, CLASSIC, AND DPX-M6316 + CLASSIC TANK MIXES (WITH ADDITIVES) .....	88
BLAZER AND BASAGRAN SOLO ADDITIVE STUDY .....	91
BLAZER AND BASAGRAN COMBINATION ADDITIVE STUDY .....	95
VERDICT AND BASAGRAN/BLAZER ADDITIVE/ANTAGONISM STUDY .....	98
ASSURE AND POAST ADDITIVE STUDY .....	100
ASSURE AND DPX-Y6202-31 STUDY .....	103
POSTEMERGENCE MORNINGGLORY CONTROL IN SOYBEANS .....	105
EARLY PREPLANT SOYBEAN STUDY .....	107
NO-TILL SOYBEAN WEED CONTROL STUDY .....	113
BROWNSTOWN RESEARCH CENTER	
PREEMERGENCE CORN STUDY .....	118
PREEMERGENCE/POSTEMERGENCE SOYBEAN STUDY .....	122
POSTEMERGENCE MORNINGGLORY CONTROL IN SOYBEANS .....	127
NO-TILL SOYBEANS IN A RYE COVER CROP .....	129
PREEMERGENCE/POSTEMERGENCE SORGHUM STUDY .....	134



DEKALB RESEARCH CENTER

INCORPORATION STUDY .....	138
TANDEM STUDY .....	141
EARLY PREPLANT TREATMENTS FOR NO-TILL CORN IN SOYBEAN STUBBLE .....	143
CORN IN RED CLOVER & ALFALFA SOD .....	146
SOYBEANS POSTEMERGENCE STUDY .....	149
COBRA POSTEMERGENCE ON SOYBEANS .....	152
WEED CONTROL FOR NO-TILL DRILLED SOYBEANS .....	155
SOYBEANS AFTER ALFALFA AND CLOVER TREATED IN FALL .....	158
SOYBEANS IN GRASS SOD .....	160
CONTROL OF COMMON LAMBSQUARTERS IN SOYBEANS .....	162
EFFECT OF SOYBEAN HERBICIDE RESIDUES ON CORN .....	172
RATES AND COMBINATIONS FOR CONTROL OF PIGWEED AND VELVETLEAF .....	174
SECONDARY SCREENING .....	176

ELWOOD RESEARCH CENTER

FALL PANICUM AND TILLAGE STUDY .....	183
CORN IN CLOVER SOD .....	185
CORN IN ALFALFA SOD .....	187
LONTREL AND STARANE IN NO-TILL CORN IN CLOVER AND ALFALFA SOD .....	189
CORN IN RYE AND WHEAT .....	191
COBRA POSTEMERGENCE ON SOYBEANS .....	193
ADDITIVES TO CLASSIC .....	196
ADDITIVES TO DPX-M6316, CLASSIC, AND DPX-M6316 + CLASSIC TANK MIXES .....	199
ADDITIVE RATE STEP-LOG STUDY .....	202
BLAZER AND BASAGRAN SOLO ADDITIVE STUDY .....	205
BLAZER AND BASAGRAN COMBINATION ADDITIVE STUDY .....	209
BLAZER AND BASAGRAN ADDITIVE LOG STUDY .....	213
NO-TILL SOYBEANS IN ALFALFA AND CLOVER .....	216
SOYBEANS IN RYE AND WHEAT .....	218

MONMOUTH RESEARCH CENTER

PREEMERGENCE/POSTEMERGENCE CORN STUDY .....	220
PREEMERGENCE/POSTEMERGENCE SOYBEAN STUDY .....	225
WEED CONTROL FOR ALFALFA AND RED CLOVER .....	230

ORR RESEARCH CENTER

PREEMERGENCE CORN STUDY .....	233
CORN IN CLOVER AND ALFALFA SOD .....	237
CORN NO-TILL IN CLOVER SOD .....	240
PREEMERGENCE/POSTEMERGENCE SOYBEAN STUDY .....	242
COBRA POSTEMERGENCE ON DRILLED SOYBEANS .....	247
NO-TILL SOYBEANS AFTER CORN I .....	250
NO-TILL SOYBEANS AFTER CORN II .....	254



CHAMPAIGN CO., IL

POSTEMERGENCE CONTROL OF ESTABLISHED CANADA THISTLE IN CORN .....	257
---	-----

JEFFERSON COUNTY, IL

WILD GARLIC CONTROL STUDY .....	260
---------------------------------	-----

MARION COUNTY, IL

WILD GARLIC CONTROL STUDY .....	261
---------------------------------	-----

APPENDIX A    HERBICIDES EVALUATED IN 1986 .....	264
--	-----

APPENDIX B    INDEX OF WEED SPECIES REPORTED .....	269
--	-----

APPENDIX C    RAINFALL SUMMARY .....	270
--------------------------------------	-----

MAP .....	273
-----------	-----



## INTRODUCTORY REMARKS

THIS REPORT IS A SUMMARY OF THE HERBICIDE EVALUATION STUDIES CONDUCTED BY UNIVERSITY OF ILLINOIS DEPARTMENT OF AGRONOMY WEED SCIENCE PROGRAM DURING 1986. THE PURPOSE OF THIS REPORT IS TO INFORM OUR COOPERATORS IN INDUSTRY, COLLEAGUES AT OTHER UNIVERSITIES, AND OTHER INTERESTED PERSONS OF THE RESULTS OF OUR 1986 FIELD RESEARCH STUDIES. INFORMATION HEREIN DOES NOT CONSTITUTE A RECOMMENDATION OR ENDORSEMENT. CURRENT RECOMMENDATIONS FOR WEED CONTROL IN FIELD CROPS ARE AVAILABLE FROM THE UNIVERSITY OF ILLINOIS COOPERATIVE EXTENSION SERVICE.

THIS REPORT CONTAINS WEED CONTROL STUDIES AND RAINFALL DATA FROM SIX UNIVERSITY OF ILLINOIS RESEARCH CENTERS INCLUDING BROWNSTOWN, DEKALB, ELWOOD, MONMOUTH, ORR, AND URBANA. (SEE PAGE 270 FOR THE RAINFALL SUMMARY, BY LOCATION; SEE PAGE 273 FOR A MAP SHOWING THESE SPECIFIC LOCATIONS IN ILLINOIS).

EACH STUDY IN THIS REPORT IS DIVIDED INTO TWO SECTIONS--THE FIRST, EXPERIMENTAL METHODS AND DETAILS, AND THE SECOND, EXPERIMENTAL RESULTS. WITH CERTAIN STUDIES, SOME AUTHORS HAVE INCLUDED AN ADDITIONAL SECTION REFERRED TO AS "NOTES". THIS SECTION CONTAINS INFORMATION NOT INCLUDED IN THE METHODS AND DETAILS SECTION BUT CONSIDERED IMPORTANT TO THE INTERPRETATION OF THE RESULTS SECTION. IN REPORTING EACH STUDY WE HAVE TRIED TO BE AS COMPLETE AS POSSIBLE; HOWEVER CERTAIN OMISSIONS DO OCCUR. WHEREVER EXPERIMENTAL DETAILS OR DATA HAVE BEEN OMITTED, A DOUBLE DASH (--) WILL APPEAR.

WEED CONTROL RATINGS ARE BASED ON A 0-100% SCALE WITH 100% BEING COMPLETE CONTROL AND 0% BEING NO CONTROL OR EQUIVALENT TO THE WEED PRESSURE FOUND IN THE UNTREATED CHECK. MOST STUDIES WERE REPLICATED A MINIMUM OF THREE TIMES. UNLESS OTHERWISE INDICATED, DATA APPEARING IN THE TABLES REFLECTS THE AVERAGE OF THREE REPLICATIONS.

WEED SPECIES ARE GENERALLY REPORTED AS FOUR-LETTER ABBREVIATIONS IN THE SAME MANNER AS USED BY THE NORTH CENTRAL WEED CONTROL CONFERENCE. FOR YOUR CONVENIENCE, A COMPLETE LIST OF ALL WEED SPECIES DESCRIBED IN THIS REPORT CAN BE FOUND ON PAGE 269. IN ADDITION TO THE ABBREVIATED NAME, BOTH COMMON AND BOTANICAL NAMES ARE INCLUDED.

HERBICIDES DESCRIBED IN THIS REPORT ARE GENERALLY REFERRED TO BY THEIR TRADE NAME OR BY EXPERIMENTAL NUMBER IF NO TRADE NAME EXISTS. UNLESS OTHERWISE INDICATED, HERBICIDE RATES ARE SHOWN AS POUNDS OF ACTIVE INGREDIENT PER ACRE (LB AI/AC). A COMPLETE LISTING OF ALL HERBICIDES AND HERBICIDE PACKAGE MIXES DISCUSSED IN THIS REPORT CAN BE FOUND ON PAGES 264-268. THE TRADE NAME, COMMON NAME, EXPERIMENTAL NUMBER, AND MANUFACTURER ARE LISTED WHERE APPROPRIATE.

DESPITE CAREFUL PROOFREADING, CERTAIN ERRORS IN TYPING OR COMPILATION MAY EXIST. IF YOU FIND AN OBVIOUS ERROR, PLEASE CONTACT THE APPROPRIATE AUTHOR IN ORDER TO BRING IT TO HIS OR HER ATTENTION. FINALLY, PLEASE DO NOT REPRODUCE SECTIONS OF THIS REPORT FOR PUBLIC DISTRIBUTION WITHOUT CONSULTING THE AUTHOR(S).

WE HOPE YOU FIND THIS REPORT HELPFUL AND USEFUL. IF YOU HAVE QUESTIONS, CONCERNS, OR SUGGESTIONS PLEASE FEEL FREE TO CONTACT US.

THANK YOU!



Exp. Title: CORN PREPLANT INCORPORATED GRASS STUDY  
Researcher(s): LIEBL, WAX, and ORFANEDES Location: URBANA Field: N-100  
Design: RCB Reps: 3 Trts: 4 Plot size: 10 ft X 40 ft

Soil Type(s): FLANAGAN SILT LOAM/DRUMMER SILTY CLAY LOAM  
Drainage: F (E-G-F-P) % O.M.: 4% pH: 6.2 % Slope: 0-2  
P test #/A: 125 K test #/A: 534

Fert # applied/A N: 221 P: 0 K: 0 Form: ANHYDROUS AMMONIA

Crop Current Crop: CORN Cultivar: PIONEER 3377 Previous Crop: SOYBEAN  
Planting Date: 04-29-86 Rate: 26,000 PPA Depth: 2 inches  
Row Spacing: 30 inches

Till\* Fall: NONE Spring: F, F Incorp Method: O-SEEDBED FINISHER  
Incorp Depth: 2-4 inches Incorp Time: immediately

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PPI
	Date mm/dd/yy	04/29/86
	Time (24 hr clk)	14 to 15
	Crop stage lf/in	0/0
	Soil Temp F	60
	Soil Moist W-A-D	D
	Air Temp F	75
	% R.H.	50
	Wind spd/dir	7/S
	% overcast	0
	% residue	0
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	18
	Spray system **	HH
	Band width in.	--
	Nozzle type	FF 8003
	Nozzle ht. in	20
	Pressure lbs.	30
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

NOTES: 1.75 INCHES OF RAIN OCCURRED ONE DAY FOLLOWING APPLICATION.

CORN PREPLANT INCORPORATED GRASS STUDY

URBANA N-100

TREATMENT	FORM.	RATE LB AI/AC	RATING DATE	% WEED CONTROL				
				VELE	GIFT	JIWE	COCB	SMPW
ATTRABUTE II	5.9L	6.0	5/29	93	93	93	95	100
			6/17	70	83	85	--	87
SUTAZINE	6L	6.0	5/29	93	92	98	98	100
			6/17	77	93	92	--	95
SAN-582+ ATRAZINE	8E	1.5	5/29	70	93	63	88	100
	4L	1.5	6/17	43	57	63	--	70
SUTAN+	6.7E	4.0	5/29	63	88	50	80	100
			6/17	43	83	47	--	75

Exp. Title: CORN PREEMERGENCE GRASS STUDY I  
Researcher(s): LIEBL, WAX, and ORFANEDES Location: URBANA Field: N-100  
Design: RCB Reps: 3 Trts: 25 Plot size: 10 ft X 40 ft

Soil Type(s): FLANAGAN SILT LOAM/DRUMMER SILTY CLAY LOAM  
Drainage: F (E-G-F-P) % O.M.: 4 pH: 6.2 % Slope: 0-2  
P test #/A: 125 K test #/A: 534

Fert # applied/A N: 221 P: 0 K: 0 Form: ANHYDROUS AMMONIA

Crop Current Crop: CORN Cultivar: PIONEER 3377 Previous Crop: SOYBEANS  
Planting Date: 04-29-86 Rate: 26,000 PPA Depth: 2 inches  
Row Spacing: 30 inches

Till\* Fall: NONE Spring: F, F, O-SEEDBED FINISHER  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PRE
	Date mm/dd/yy	04/29/86
	Time (24 hr clk)	15 to 17
	Crop stage lf/in	0/0
	Soil Temp F	60
	Soil Moist W-A-D	D
	Air Temp F	75
	% R.H.	50
	Wind spd/dir	15/SW
	% overcast	10
	% residue	10
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	18
	Spray system **	HH
	Band width in.	--
	Nozzle type	FF 8003
	Nozzle ht. in	20
	Pressure lbs.	26
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Notes: 1.75 INCHES OF RAIN OCCURRED ONE DAY AFTER APPLICATION.

CORN PREEMERGENCE GRASS STUDY I

URBANA N-100 P.1

TREATMENT	FORM.	RATE LB AI/AC	RATING DATE	% WEED CONTROL			
				GIFT	JIWE	VELE	SMPW
DUAL	8E	2.0	5/29	83	70	45	100
			6/17	65	23	30	50
DUAL	8E	4.0	5/29	95	77	60	100
			6/17	90	33	40	63
LASSO	4 MT	2.5	5/29	90	67	38	100
			6/17	80	30	27	50
LASSO	4 MT	5.0	5/29	97	95	40	100
			6/17	90	67	80	70
CGA-180937	7.8E	2.0	5/29	88	57	40	92
			6/17	87	40	40	67
CGA-180937	7.8E	4.0	5/29	90	70	42	97
			6/17	85	43	33	70
SAN-582	8E	1.5	5/29	92	72	50	90
			6/17	85	40	37	67
SAN-582	8E	3.0	5/29	100	97	73	100
			6/17	98	85	53	85
SAN-582+ ATRAZINE	8E	1.5	5/29	95	88	88	100
	4L	1.5	6/17	88	78	57	85
SAN-582+ BLADEX	8E	1.5	5/29	95	100	55	100
	4L	1.75	6/17	85	78	45	86
HARNESS	8EC	2.0	5/29	98	97	57	100
			6/17	87	70	40	78
HARNESS	8EC	4.0	5/29	97	100	60	100
			6/17	87	57	33	67
CGA-24704	2.5E	2.0	5/29	95	50	70	93
			6/17	85	40	33	63
CGA-24704	2.5E	4.0	5/29	97	78	30	100
			6/17	95	72	30	80
SUTAN ENCAP.	4S	4.0	5/29	62	30	37	33
			6/17	43	20	13	30

## CORN PREEMERGENCE GRASS STUDY I

URBANA N-100 P.2

TREATMENT	FORM.	RATE LB AI/AC	RATING DATE	% WEED CONTROL			
				GIFT	JIWE	VELE	SMPW
SUTAN ENCAP.	4S	6.0	5/29	50	27	27	43
			6/17	37	33	30	43
ERAD. ENCAP.	3S	4.0	5/29	82	17	23	27
			6/17	70	33	33	57
ERAD. ENCAP.	3S	6.0	5/29	75	06	23	17
			6/17	75	30	33	60
SUTAN+	6.7E	6.0	5/29	47	37	30	33
			6/17	40	27	27	40
ERADICANE	6.7E	6.0	5/29	68	17	17	33
			6/17	62	20	20	37
BICEP	6L	3.35	5/29	77	43	37	100
			6/17	67	47	40	73
BICEP	6L	6.7	5/29	87	98	90	100
			6/17	77	80	63	85
BICEP	6L-D	3.35	5/29	81	90	17	100
			6/17	75	73	53	82
BICEP	6L-D	6.7	5/29	80	75	27	97
			6/17	73	65	57	77
UNTREATED CHECK				0	0	0	0

Exp. Title: CORN PREEMERGENCE GRASS STUDY II  
 Researcher(s): LIEBL, WAX, AND ORFANEDES Location: URBANA Field: N-100  
 Design: RCB Reps: 3 Trts: 20 Plot size: 10 ft X 40 ft

Soil Type(s) FLANAGAN SILT LOAM/DRUMMER SILTY CLAY LOAM  
 Drainage: F (E-G-F-P) % O.M.: 4 pH: 6.2 % Slope: 0-2  
 P test #/A: 125 K test #/A: 534

Fert # applied/A N: 221 P: 0 K: 0 Form: ANHYDROUS AMMONIA

Crop Current Crop: CORN Cultivar : PIONEER 3377 Previous Crop: SOYBEANS  
 Planting Date: 04/29/86 Rate: 26,000 PPA Depth: 2 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: F, F, O-SEEDBED FINISHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing \* PRE  
 Date mm/dd/yy 04/29/86  
 Time (24 hr clk) 15 to 17  
 Crop stage lf/in 0/0  
 Soil Temp F 60  
 Soil Moist W-A-D D  
 Air Temp F 75  
 % R.H. 50  
 Wind spd/dir 15/SW  
 % overcast 10  
 % residue 10  
 Carrier type H<sub>2</sub>O  
 Carrier rate gpa 18  
 Spray system \*\* HH  
 Band width in. --  
 Nozzle type FF 8003  
 Nozzle ht. in 20  
 Pressure lbs. 26  
 Speed mph 3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Notes: 1.75 INCHES OF RAIN OCCURRED ONE DAY AFTER APPLICATION.

CORN PREEMERGENCE GRASS STUDY II

URBANA N-100 P.1

TREATMENT	FORM.	RATE LB AI/AC	RATING DATE	% WEED CONTROL			
				GIFT	JIWE	VELE	SMPW
SC-0051	3LC	1.0	5/29	30	67	--	43
			6/18	30	37	37	33
SC-0051	3LC	1.5	5/29	50	100	--	75
			6/18	37	53	50	57
SC-0051	3LC	2.0	5/29	20	100	--	98
			6/18	30	67	67	67
SC-0051+ ATRAZINE	3LC	1.5	5/29	80	100	--	100
		1.5	6/18	60	87	78	90
SC-0456	2LC	0.75	5/29	73	50	--	63
			6/18	55	63	63	70
SC-0456	2LC	1.0	5/29	87	100	--	100
			6/18	73	83	83	82
SC-0456	2LC	1.5	5/29	83	100	--	97
			6/18	88	92	92	90
SC-0456+ ATRAZINE	2LC	1.0	5/29	95	100	--	93
	4L	1.5	6/18	96	97	95	98
SC-0735	75WP	0.5	5/29	83	100	--	100
			6/18	83	80	82	87
SC-0735	75WP	0.75	5/29	95	92	--	93
			6/18	92	88	87	90
SC-0735	75WP	1.0	5/29	91	98	--	100
			6/18	78	83	77	87
SC-0735+ ATRAZINE	75WP	0.75	5/29	94	100	--	100
	4L	1.5	6/18	87	92	90	95
SC-0774	75WP	0.5	5/29	67	40	--	50
			6/18	60	50	47	63
SC-0774	75WP	0.75	5/29	72	33	--	40
			6/18	27	27	20	37
SC-0774	75WP	1.0	5/29	58	17	--	13
			6/18	50	40	40	43

CORN PREEMERGENCE GRASS STUDY II

URBANA N-100 P.2

TREATMENT	FORM.	RATE LB AI/AC	RATING DATE	% WEED CONTROL			
				GIFT	JIWE	VELE	SMPW
SC-0774+	75WP	0.75	5/29	63	77	--	83
ATRAZINE	4L	1.5	6/18	60	73	70	83
ATRAZINE	4L	1.5	5/29	47	53	--	77
				37	62	60	72
DUAL	8E	2.0	5/29	92	27	--	90
			6/18	73	40	30	43
ATRAZINE+	4L	1.5	5/29	87	70	--	78
DUAL	8E	2.0	6/18	75	43	40	63
UNTREATED CHECK			5/29	0	0	--	0
			6/18	0	0	0	0

Exp. Title: CORN PREEMERGENCE GRASS STUDY (GRANULAR FORMULATIONS)  
Researcher(s): LIEBL, WAX, and ORFANEDES Location: URBANA Field: N-100  
Design: RCB Reps: 3 Trts: 8 Plot size: 10 ft X 40 ft

Soil Type(s): FLANAGAN SILT LOAM/DRUMMER SILTY CLAY LOAM  
Drainage: F (E-G-F-P) % O.M.: 4 pH: 6.2 % Slope: 0-2  
P test #/A: 125 K test #/A: 534

Fert # applied/A N: 221 P: 0 K: 0 Form: ANHYDROUS AMMONIA

Crop Current Crop: CORN Cultivar: PIONEER 3377 Previous Crop: SOYBEANS  
Planting Date 04/29/86 Rate: 26,000 PPA Depth: 2 inches  
Row Spacing: 30 inches

Till\* Fall: NONE Spring: F, F, O-SEEDBED FINISHER  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing *	PRE
Date mm/dd/yy	05/02/86
Time (24 hr clk)	16 to 17
Crop stage lf/in	0/0
Soil Temp F	58
Soil Moist W-A-D	W
Air Temp F	68
% R.H.	50
Wind spd/dir	10/NW
% overcast	10
% residue	10
Carrier type	H <sub>2</sub> O/GRAN.
Carrier rate gpa	18
Spray system **	See Notes***
Band width in.	--
Nozzle type	FF 8003
Nozzle ht. in	20
Pressure lbs.	26
Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Notes: \*\*\*ATRAZINE WAS APPLIED WITH A HAND-HELD SPRAY SYSTEM. GRANULAR  
FORMULATIONS WERE APPLIED WITH A HAND HELD APPLICATOR.

CORN PREEMERGENCE GRASS STUDY (GRANULAR FORMULATIONS)

URBANA N-100

TREATMENT	FORM.	RATE LB AI/AC	RATING DATE	% WEED CONTROL			
				GIFT	JIWE	VELE	SMPW
DUAL+	25G	2.0	6/2	70	92	--	100
ATRAZINE	4L	1.5	6/18	77	83	57	87
DUAL+	25G	4.0	6/2	63	95	--	100
ATRAZINE	4L	1.5	6/18	90	90	45	93
DUAL+	25G-C	2.0	6/2	52	95	--	100
ATRAZINE	4L	1.5	6/18	48	62	40	43
DUAL+	25G-C	4.0	6/2	82	95	--	100
ATRAZINE	4L	1.5	6/18	68	70	68	75
ERADICANE IMPREG. FERT.		4.0	6/2	27	0	--	0
			6/18	37	0	6	0
ERADICANE IMPREG. FERT.+		4.0	6/2	57	90	--	97
ATRAZINE	4L	1.5	6/18	60	47	43	57
DUAL	25G	2.0	6/2	43	13	--	20
			6/18	62	0	0	23
UNTREATED CHECK			6/2	0	0	--	0
			6/18	0	0	0	0

LR = LABELLED RATE

Exp. Title: CORN PREEMERGENCE BROADLEAF STUDY  
Researcher(s): LIEBL, WAX, ORFANEDES Location: URBANA Field: ANS-100  
Design: RCB Reps: 3 Trts: 27 Plot size: 10 ft X 40 ft

Soil Type(s): BRENTON SILT LOAM/DRUMMER SILTY CLAY LOAM  
Drainage: F (E-G-F-P) % O.M.: 5 pH: 6.3 % Slope: 0-2  
P test #/A: 47 K test #/A: 380

Fert # applied/A N: 221 P: 0 K:0 Form: Amm. Nitrate

Crop Current Crop: CORN Cultivar: PIONEER 3377 Previous Crop: SOYBEANS  
Planting Date: 04/29/86 Rate: 26,000 PPA Depth: 2 inches  
Row Spacing: 30 inches

Till\* Fall: NONE Spring: F, F, O-SEEDBED FINISHER  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PRE
	Date mm/dd/yy	04/30/86
	Time (24 hr clk)	15 to 17
	Crop stage lf/in	0/0
	Soil Temp F	62
	Soil Moist W-A-D	D
	Air Temp F	82
	% R.H.	80
	Wind spd/dir	3/S
	% overcast	80
	% residue	10
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	18
	Spray system **	HH
	Band width in.	--
	Nozzle type	FF 8003
	Nozzle ht. in	20
	Pressure lbs.	26
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Notes: 1.75 INCHES OF RAIN OCCURRED 30 MINUTES FOLLOWING APPLICATION.

CORN PREEMERGENCE BROADLEAF STUDY

URBANA ANS-100 P.1

TREATMENT	FORM.	RATE LB AI/AC	RATING DATE	% WEED CONTROL			
				GIFT	VELE	MGSP	SMPW
DUAL+	8E	2.0	5/30	83	43	70	100
ATRAZINE+	4L	0.5	6/20	73	49	73	90
PPG-1259	3FL	0.1					
DUAL+	8E	2.0	5/30	84	70	68	100
ATRAZINE+	4L	0.5	6/20	59	59	67	87
PPG-1259	3FL	0.15					
DUAL+	8E	2.0	5/30	84	97	87	100
ATRAZINE+	4L	0.75	6/20	66	70	75	89
PPG-1259	3FL	0.15					
DUAL+	8E	2.0	5/30	85	75	68	100
ATRAZINE+	4L	0.75	6/20	66	69	80	86
PPG-1259	3FL	0.2					
DUAL+	8E	2.0	5/30	81	92	55	90
METRIBUZIN+	75DF	0.25	6/20	53	64	53	76
PPG-1259	3FL	0.15					
LASSO+ATRAZ PM	4L	4.0	5/30	92	87	87	100
			6/20	82	76	77	93
LASSO+ATRAZ PM	4L	4.5	5/30	95	90	88	100
			6/20	75	66	71	90
LASSO+ATRAZ PM	4L	5.0	5/30	95	95	87	100
			6/20	92	85	80	97
LASSO+ATRAZ PM+	4L	4.0	5/30	95	85	90	100
ATRAZINE	4L	0.2	6/20	89	73	64	93
BLADEX+	4L	3.0	5/30	76	90	83	100
ATRAZINE	4L	1.0	6/20	54	78	74	92
RS-118	80DF	3.0	5/30	60	82	70	100
			6/20	29	71	65	76
RS-238	80DF	2.5	5/30	78	85	95	100
			6/20	51	73	75	86
RS-238	80DF	3.34	5/30	63	92	95	100
			6/20	55	85	77	89

CORN PREEMERGENCE BROADLEAF STUDY

URBANA ANS-100 P.2

TREATMENT	FORM.	RATE LB AI/AC	RATING DATE	% WEED CONTROL			
				GIFT	VELE	MGSP	SMPW
ATRAZINE+	4L	1.5	5/30	70	95	92	100
BLADEX	4L	1.5	6/20	59	87	80	90
ATRAZINE+	4L	1.0	5/30	76	95	88	100
BLADEX	4L	2.0	6/20	60	91	90	92
ATRAZINE+	4L	0.75	5/30	66	75	82	93
BLADEX	4L	2.25	6/20	66	86	85	90
ATRAZINE+	4L	2.0	5/30	85	92	98	100
BLADEX	4L	1.0	6/20	63	83	94	97
ATRAZINE	4L	2.0	5/30	83	92	98	100
			6/20	59	89	91	94
BLADEX	4L	2.25	5/30	71	83	87	91
			6/20	54	75	72	75
PROWL+	4L	1.0	5/30	68	97	100	97
ATRAZINE	4EC	1.5	6/20	44	82	86	92
LASSO+	4MT	2.0	5/30	94	90	83	100
BLADEX+	4L	1.0	6/20	86	80	72	94
ATRAZINE	4L	0.75					
DUAL+	8E	1.5	5/30	87	75	93	100
BLADEX+	4L	1.0	6/20	71	60	75	88
ATRAZINE	4L	0.75					
LASSO+	4MT	2.0	5/30	84	63	63	100
BLADEX+	4L	1.0	6/20	72	50	55	89
METRIBUZIN	75DF	0.12					
LASSO+	4MT	2.0	5/30	90	80	72	98
ATRAZINE+	4L	0.75	6/20	73	58	54	87
METRIBUZIN	75DF	0.12					
LASSO+	4MT	2.0	5/30	89	93	80	100
ATRAZINE+	4L	0.75	6/20	79	68	73	93
METRIBUZIN	75DF	0.24					
LASSO+	4MT	2.0	5/30	87	88	57	100
METRIBUZIN	75DF	0.24	6/20	75	67	63	90

Exp. Title: CORN POSTEMERGENCE BROADLEAF STUDY I  
 Researcher(s): LIEBL, WAX, ORFANEDES Location: URBANA Field: ANS-100  
 Design: RCB Reps: 3 Trts: 35 Plot size: 10 ft X 40 ft

Soil Type(s): BRENTON SILT LOAM/DRUMMER SILTY CLAY LOAM  
 Drainage: F (E-G-F-P) % O.M.: 5 pH: 6.3 % Slope: 0-2  
 P test #/A: 47 K test #/A: 380

Fert # applied/A N: 221 P: 0 K: 0 Form: Amm. Nitrate

Crop Current Crop: CORN Cultivar: PIONEER 3377 Previous Crop: SOYBEANS  
 Planting Date: 04-29-86 Rate: 26,000 PPA Depth: 2 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: F, F, O-SEEDBED FINISHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing:	POST
Date mm/dd/yy	05/21/86
Time (24 hr clk)	06 to 07
Crop stage lf/in	4/2
Soil Temp F	62
Soil Moist W-A-D	A
Air Temp F	50
% R.H.	50
Wind spd/dir	8/N
% overcast	30
% residue	0
Carrier type	H <sub>2</sub> O
Carrier rate gpa	18
Spray system **	HH
Band width in.	--
Nozzle type	FF 8002
Nozzle ht. in	20
Pressure lbs.	40
Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: POST

Species VELE

Stage: 1f/in 1/2

Density: #/sq ft 1-2

Species MGSP

Stage: 1f/in 1/2

Density: #/sq ft < 1

Species SMPW

Stage: 1f/in 1/2

Density: #/sq ft < 1

Species COLQ

Stage: 1f/in 1/2

Density: #/sq ft < 1

CORN POSTEMERGENCE BROADLEAF STUDY I

URBANA ANS-100 P.1

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/18)				
				GIFT	VELE	MGSP	SMPW	COLQ
STARANE	1.67L	POST	0.0625	78	52	73	59	55
STARANE	1.67L	POST	0.125	70	77	82	76	63
STARANE	1.67L	POST	0.25	64	92	88	71	65
STARANE	1.67L	POST	0.50	63	94	91	89	65
STARANE	1.67L	POST	1.00	87	98	91	99	90
LONTREL	3L	POST	0.125	64	41	56	41	85
LONTREL	3L	POST	0.25	69	58	75	75	93
LONTREL	3L	POST	0.50	69	72	94	95	95
DPX-M6316	75DF	POST	0.125 OZ	80	81	55	97	83
DPX-M6316	75DF	POST	0.25 OZ	42	85	74	97	90
DPX-M6316	75DF	POST	0.50 OZ	37	93	80	97	92
UNTREATED CHECK				0	0	0	0	0
METRIBUZIN	75DF	POST	0.125	52	90	45	77	85
METRIBUZIN	75DF	POST	0.25	68	94	39	96	93
DPX-M6316+ METRIBUZIN	75DF 75DF	POST	0.125 OZ 0.125	59	95	79	96	93
DPX-M6316+ METRIBUZIN	75DF 75DF	POST	0.25 OZ 0.125	50	96	89	98	93
DPX-M6316+ 2,4-D AMINE	75DF 3.8L	POST	0.125 OZ 0.5	56	95	90	98	95
DPX-M6316+ BLADEX	75DF 90DF	POST	0.125 OZ 1.0	46	96	91	98	93
DPX-M6316+ BLADEX	75DF 90DF	POST	0.25 OZ 1.0	34	97	91	96	93
DPX-M6316+ BLADEX	75DF 90DF	POST	0.125 OZ 2.0	72	98	95	99	97

CORN POSTEMERGENCE BROADLEAF STUDY I

URBANA ANS-100 P.2

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/18)				
				GIFT	VELE	MGSP	SMPW	COLQ
DPX-M6316+ BLADEX	75DF 90DF	POST	0.25 OZ 2.0	45	95	95	97	94
2,4-D AMINE	3.8L	POST	0.50	70	90	91	86	90
BANVEL	4L	POST	0.25	58	87	95	96	94
BLADEX	90DF	POST	1.0	87	71	88	82	90
BLADEX	90DF	POST	2.0	48	90	89	90	90
BENAZOLIN+COC	4L	POST	0.25+1 QT	62	66	52	85	85
BENAZOLIN+COC	4L	POST	0.25+1 PT	58	83	86	92	93
BENAZOLIN+ BANVEL	4L 4L	POST	0.125 0.125	74	80	91	97	93
BENAZOLIN+ BANVEL	4L 4L	POST	0.25 0.125	70	89	90	97	93
BENAZOLIN+ ATRAZINE+COC	4L 4L	POST	0.125 0.5+1QT	54	82	85	98	93
BENAZOLIN+ ATRAZINE+COC	4L 4L	POST	0.25 0.5+1QT	80	73	81	97	93
BAS-514	50WP	POST	0.25	91	69	82	64	50
BAS-514	50WP	POST	0.5	94	68	62	71	60
BAS-514	50WP	POST	0.75	95	70	90	75	73
UNTREATED CHECK				0	0	0	0	0

Note: ON APRIL 30, 1986 THE ENTIRE EXPERIMENTAL AREA RECEIVED A PREEMERGENCE BROADCAST APPLICATION OF DUAL 8E AT 1.5 LBS A.I./AC TO SUPPRESS ANNUAL GRASSES.

Exp. Title: CORN POSTEMERGENCE BROADLEAF STUDY II  
 Researcher(s): LIEBL, WAX, ORFANEDES Location: URBANA Field: ANS-100  
 Design: RCB Reps: 3 Trts: 34 Plot size: 10 ft X 40 ft

Soil Type(s): BRENTON SILT LOAM/DRUMMER SILTY CLAY LOAM  
 Drainage: F (E-G-F-P) % O.M.: 5 pH: 6.3 % Slope: 0-2  
 P test #/A: 47 K test #/A: 380

Fert # applied/A N: 221 P: 0 K: 0 Form: Amm. Nitrate

Crop Current Crop: CORN Cultivar: PIONEER 3377 Previous Crop: SOYBEANS  
 Planting Date: 04-29-86 Rate: 26,000 PPA Depth: 2 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: F, F, O-SEEDBED FINISHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	EPO	POST
	Date mm/dd/yy	05/16/86	05/21/86
	Time (24 hr clk)	07 to 09	09 to 10
	Crop stage lf/in	2/2	4/4
	Soil Temp F	62	62
	Soil Moist W-A-D	A	A
	Air Temp F	58	56
	% R.H.	65	50
	Wind spd/dir	6/W	8/N
	% overcast	10	30
	% residue	0	0
	Carrier type	H <sub>2</sub> O	H <sub>2</sub> O
	Carrier rate gpa	18	18
	Spray system **	HH	HH
	Band width in.	--	--
	Nozzle type	FF 8002	FF 8002
	Nozzle ht. in	20	20
	Pressure lbs.	40	40
	Speed mph	3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	EPO	POST
Species	VELE	VELE
Stage: lf/in	2/1	4/2
Density: #/sq ft	1-2	1-2
Species	MGSP	MGSP
Stage: lf/in	2/1	4/1.5
Density: #/sq ft	<1	<1
Species	SMPW	SMPW
Stage: lf/in	2/1	4/2
Density: #/sq ft	2	2
Species	COLQ	COLQ
Stage: lf/in	3/2	4/2
Density: #/sq ft	<1	<1

CORN POSTEMERGENCE BROADLEAF STUDY II

URBANA ANS-100 P.1

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL		(6/14) SMPW	(6/14) %
				VELE	MGSP		INJURY
ATRAZINE+ PPG-1259	4L 3FL	POST	0.5 0.05	93	87	98	0
ATRAZINE+ PPG-1259	4L 3FL	POST	0.5 0.10	99	96	100	0
2,4-D+ PPG-1259	3.8L 3FL	POST	0.25 0.05	87	82	93	0
2,4-D+ PPG-1259	3.8L 3FL	POST	0.25 0.1	93	80	96	0
BUCTRIL	2L	POST	0.25	77	53	87	0
BUCTRIL	2L	POST	0.38	89	68	94	0
BROMINAL+ ATRAZINE	4L 4L	POST	0.25 0.25	94	90	98	0
BROMINAL+ ATRAZINE	4L 4L	POST	0.25 0.5	95	88	98	0
SC-0098	1.7EC	POST	0.03	70	33	76	0
SC-0098	1.7EC	POST	0.06	87	67	94	0
SC-0098	1.7EC	POST	0.12	92	90	95	10
SC-0098+COC	1.7EC	POST	0.03+0.25PT	88	75	93	10
SC-0098+COC	1.7EC	POST	0.06+0.25PT	90	82	93	13
2,4-D AMINE	3.8L	POST	0.4	91	85	90	0
ATRAZINE+COC	4L	POST	1.0+1%	81	97	98	0
BUCTRIL+ ATRAZINE	2L 4L	POST	0.25 1.0	100	96	100	0
BUCTRIL+ BLADEX	2L 90DF	POST	0.25 0.5	91	83	96	0
BUCTRIL+ATR. PM	3L	POST	0.75	96	92	99	0

CORN POSTEMERGENCE BROADLEAF STUDY II

URBANA ANS-100 P.2

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL		(6/14)	(6/14) %
				VELE	MGSP	SMPW	INJURY
BUCTRIL+ATR. PM	3L	POST	1.13	98	97	99	0
BROMINAL+ 2,4-D AMINE	4L 3.8L	POST	0.25 0.25	67	88	88	3
UNTREATED CHECK				0	0	0	0
RS-010+ ATRAZINE	45WP 4L	POST	0.9 1.5	100	98	100	0
RS-010+ BLADEX	45WP 90DF	POST	0.9 1.25	95	93	99	0
RS-011+ ATRAZINE	3.75EC 4L	POST	0.9 1.5	99	95	98	0
RS-011+ BLADEX	3.75EC 90DF	POST	0.9 1.25	99	92	99	7
RS-238	80DF	EPO	2.5	98	97	100	0
RS-238	80DF	POST	2.5	99	96	100	0
RS-100	60%	POST	1.1	84	85	94	0
BASAGRAN+ ATRAZINE+COC	4S 4L	POST	0.25 0.5+1%	93	88	98	0
BASAGRAN+ ATRAZINE+28%N	4S 4L	POST	0.25 0.5+1%	95	87	95	0
BASAGRAN+ ATRAZINE+COC	4S 4L	POST	0.50 0.5+1%	99	90	99	0
BASAGRAN+ ATRAZINE+28%N	4S 4L	POST	0.50 0.5+1%	94	87	97	0
MARKSMAN	3.2L	POST	1.0	94	93	98	0
MARKSMAN	3.2L	POST	1.5	98	98	100	0
UNTREATED CHECK				0	0	0	0

Note: ON APRIL 30, 1986 THE ENTIRE TEST AREA RECEIVED A PREEMERGENCE BROADCAST APPLICATION OF DUAL 8E AT A RATE OF 1.5 LBS A.I./AC TO SUPPRESS ANNUAL GRASSES.

Exp. Title: CORN POSTEMERGENCE GRASS STUDY  
 Researcher(s): LIEBL, WAX, ORFANEDES Location: URBANA Field: ANS-100  
 Design: RCB Reps: 3 Trts: 25 Plot size: 10 ft X 40 ft

Soil Type(s): BRENTON SILT LOAM/DRUMMER SILTY CLAY LOAM  
 Drainage: F (E-G-F-P) % O.M.: 5 pH: 6.3 % Slope: 0-2  
 P test #/A: 47 K test #/A: 380

Fert # applied/A N: 221 P: 0 K: 0 Form: Amm. Nitrate

Crop Current Crop: CORN Cultivar: PIONEER 3377 Previous Crop: SOYBEANS  
 Planting Date: 04-29-86 Rate: 26,000 PPA Depth: 2 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: F, F, O-SEEDBED FINISHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	EPO	POST	LPO
Date mm/dd/yy		05/16/86	05/21/86	05/28/86
Time (24 hr clk)		09 to 11	10 to 11	16 to 17
Crop stage lf/in		3/2	5/4	5/6
Soil Temp F		62	63	70
Soil Moist W-A-D		A	A	A
Air Temp F		70	60	75
% R.H.		60	50	70
Wind spd/dir		10/SW	8/N	10/NE
% overcast		10	45	90
% residue		0	0	0
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		18	18	18
Spray system **		HH	HH	HH
Band width in.		--	--	--
Nozzle type		FF 8003	FF 8002	FF 8003
Nozzle ht. in		20	20	20
Pressure lbs.		40	40	40
Speed mph		3	3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

#### Species Present at Application:

Appl. Timing:	EPO	POST	LPO
Species	GIFT	GIFT	GIFT
Stage: lf/in	1-2/2	4/2.5	5/3
Density: #/sq ft	12	12	12

CORN POSTEMERGENCE GRASS STUDY

URBANA ANS-100 P.1

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% GIFT CONTROL		% INJURY (6/2)
				(6/2)	(6/18)	
TANDEM+	4L	EPO	0.5	100	99	0
ATRAZINE+COC	4L		1.5+1QT			
TANDEM+	4L	EPO	0.5	97	96	0
BLADEX	90DF		1.6			
TANDEM+	4L	EPO	0.5	97	96	0
ATRAZINE+	4L		0.8			
BLADEX	90DF		0.8			
ATRAZINE+COC	4L	EPO	2.0+1 QT	97	98	0
TANDEM+	4L	POST	0.5	80	88	0
ATRAZINE+COC	4L		1.5+1QT			
TANDEM+	4L	POST	0.5	91	90	0
ATRAZINE+COC	4L		2.0+1QT			
TANDEM+	4L	POST	0.5	85	90	0
ATRAZINE+COC/	4L		1.5+1QT			
ATRAZINE+COC	4L	LPO	0.5+1QT			
TANDEM+	4L	POST	0.5	93	96	0
ATRAZINE+COC/	4L		1.5+1QT			
ATRAZINE+COC	4L	LPO	1.0+1QT			
ATRAZINE+COC	4L	POST	2.0+1 QT	70	50	0
ATRAZINE+COC/	4L	POST	2.0+1 QT	82	72	5
ATRAZINE+COC	4L	LPO	2.0+1 QT			
SC-0051+TW 20	3LC	POST	0.50+0.25%	60	27	0
SC-0051+TW 20	3LC	POST	0.75+0.25%	79	58	0
SC-0051+TW 20	3LC	POST	1.00+0.25%	85	70	5
SC-0051+	3LC	POST	0.50	82	69	0
ATRAZINE+TW 20	4L		1.0+0.25%			

CORN POSTEMERGENCE GRASS STUDY

URBANA ANS-100 P.2

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% GIFT CONTROL		% INJURY (6/2)
				(6/2)	(6/18)	
SC-0456+TW 20	2LC	POST	0.25+0.5%	88	81	0
SC-0456+TW 20	2LC	POST	0.50+0.5%	95	93	0
SC-0456+TW 20	2LC	POST	1.00+0.5%	95	95	0
SC-0456+ ATRAZINE+TW 20	2LC	POST	0.25	97	99	0
	4L		1.0+0.5%			
SC-0735+TW 20	75WP	POST	0.25+0.5%	82	70	0
SC-0735+TW 20	75WP	POST	0.50+0.5%	90	88	0
SC-0735+TW 20	75WP	POST	1.00+0.5%	98	96	5
SC-0735+ ATRAZINE+TW 20	75WP	POST	0.25	99	99	0
	4L		1.0+0.5%			
ATRAZINE	4L	POST	1.0	23	10	0
ATRAZINE+COC	4L	POST	1.5	57	36	0
UNTREATED CHECK				0	0	0

Notes: EPO=SEVERAL DAYS PRIOR TO "POST" APPLICATION  
LPO=FIVE DAYS FOLLOWING "POST" APPLICATION

ON MAY 28, 1986, THE ENTIRE TEST AREA RECEIVED A POSTEMERGENCE BROADCAST APPLICATION OF 2,4-D AMINE AT A RATE OF 0.4 LBS A.I./AC TO CONTROL BROADLEAF WEEDS

Exp. Title: POST-DIRECTED CORN STUDY  
 Researcher(s): GAST AND LIEBL Location: URBANA Field: M-17W  
 Design: RCB Reps: 3 Trts: 17 Plot size: 10 ft X 50 ft

Soil Type(s): BRENTON SILT LOAM/FLANAGAN SILT LOAM  
 Drainage: F (E-G-F-P) % O.M.: 4 pH: 5.9 % Slope: 0-2  
 P test #/A: 75 K test #/A: 370

Fert # applied/A N: 240 P:0 K: 0 Form: ANHYDROUS AMMONIA

Crop Current Crop: CORN Cultivar: PIONEER 3377 Previous Crop: SOYBEANS  
 Planting Date: 04/30/86 Rate: 26,000 PPA Depth: 2 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: F, F, SEEDBED FINISHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing \* O-POSTD.  
 Date mm/dd/yy 06/12/86  
 Time (24 hr clk) 07 to 09  
 Crop stage lf/in 10/29  
 Soil Temp F --  
 Soil Moist W-A-D A  
 Air Temp F 65  
 % R.H. 85  
 Wind spd/dir 10/W  
 % overcast 95  
 % residue --  
 Carrier type H<sub>2</sub>O  
 Carrier rate gpa 25  
 Spray system \*\* TM  
 Band width in. --  
 Nozzle type FF-15004  
 Nozzle ht. in 12  
 Pressure lbs. 35  
 Speed mph 3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: O-POSTD.  
 Species GIFT  
 Stage: lf/in 9/--  
 Density: #/sq ft 1-5

POST-DIRECTED CORN STUDY

URBANA M-17W

TREATMENT	FORM.	RATE LB AI/AC	(6/26) % GIFT CONTROL	(6/26) % INJURY
ROUNDUP	4L	0.19	90	8
ROUNDUP	4L	0.28	98	25
ROUNDUP	4L	0.38	99	25
RODEO	4L	0.35	100	30
LANDMASTER	2.5L	25 OZ PROD.	96	9
LANDMASTER	2.5L	40 OZ PROD.	97	20
POAST+ COC	1.5L	0.15 1 QT	90	4
POAST+ COC	1.5L	0.2 1 QT	93	4
POAST+ 2,4-D AMINE+ COC	1.5L 3.8L	0.2 0.38 1 QT	93	3
COMMAND	6 EC	0.5	73	1
COMMAND	6 EC	0.75	82	8
COMMAND	6 EC	1.0	82	9
BAS-514	50WP	0.4	77	1
BAS-514	50WP	0.8	82	2
PURSUIT	1.92L	0.09	88	2
WEEDY CHECK			0	0
WEED FREE CHECK			100	0

Notes: TEST AREA RECEIVED A BROADCAST PREEMERGENCE APPLICATION OF DUAL AND ATRAZINE AT A RATE OF 1 LB AI/AC EACH. DURING THE 3RD WEEK OF MAY, 2,4-D AMINE WAS APPLIED POSTEMERGENCE AT A RATE OF 3/8 LB AI/AC TO CONTROL BROADLEAVES.

Exp. Title: CULTIVATION AND POST-DIRECTED POAST FOR GIANT FOXTAIL CONTROL IN CORN  
 Researcher: ROGER GAST Location: URBANA Field: C-500  
 Design: RCB Repts: 4 Trts: 14 Plot size: 10 ft X 35 ft

Soil Type: FLANAGAN SILT LOAM  
 Drainage: F-G (E-G-F-P) % O.M.: 4 pH: 6.1 % Slope: 0-2  
 P test #/A: 50 K test #/A: 340

Fert # applied/A N: 221 P: 0 K: 0 Form: AMM. NITRATE

Crop Current Crop: CORN Cultivar: PIONEER 3377 Previous Crop: CORN  
 Planting Date: 05/06/86 Rate: 26,000 PPA Depth: 2 inches  
 Row Spacing: 30 inches

Till\* Fall: C Spring: F, F, SEEDBED FINISHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing \* O-POSTD.  
 Date mm/dd/yy 06/13/86  
 Time (24 hr clk) 07 to 09  
 Crop stage lf/in 9/24  
 Soil Temp F --  
 Soil Moist W-A-D W-A  
 Air Temp F 70  
 % R.H. 60  
 Wind spd/dir 2/SW  
 % overcast 0  
 % residue --  
 Carrier type H<sub>2</sub>O  
 Carrier rate gpa 25  
 Spray system \*\* TM  
 Band width in. DIRECTED  
 Nozzle type FF 15004  
 Nozzle ht. in 8 and 12  
 Pressure lbs. 35  
 Speed mph 3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: O-POSTD.  
 Species GIFT  
 Stage: lf/in --/10  
 Density: #/sq ft 30-100

CULTIVATION AND POST-DIRECTED POAST FOR GIANT FOXTAIL CONTROL IN CORN

URBANA C-500

TREATMENT	RATE LB AI/AC	NOZZLE HEIGHT	CULTI- VATION	% GIFT CONTROL (6/28)	% INJURY** (6/25)
POAST+COC*	0.12	8"	7 DAYS BEFORE	80	1.0
"	0.12	12"	7 DAYS BEFORE	93	2.0
"	0.18	8"	7 DAYS BEFORE	83	1.25
"	0.18	12"	7 DAYS BEFORE	91	3.5
"	0.12	8"	7 DAYS AFTER	71	1.5
"	0.12	12"	7 DAYS AFTER	79	2.0
"	0.18	8"	7 DAYS AFTER	73	1.25
"	0.18	12"	7 DAYS AFTER	79	4.0
"	0.12	8"	NONE	35	0.25
"	0.12	12"	NONE	71	1.5
"	0.18	8"	NONE	61	0.75
"	0.18	12"	NONE	80	4.0
HANDWEEDED CHECK				100	0
WEEDY CHECK				0	0

Note: \*COC RATE (ALL TRTS): 1 QT/AC

\*\* - INJURY RATING SYSTEM (SCALE OF 1-10): 1=SLIGHT INJURY, 5=MODERATE INJURY (incl. light whorl injury), 10= HEAVY INJURY (incl. plant death)

DURING THE FOURTH WEEK OF MAY, THE TEST AREA RECEIVED A POSTEMERGENCE APPLICATION OF 2,4-D AMINE AT A RATE OF 3/8 LB TO CONTROL BRAODLEAF WEEDS.

Exp. Title: EARLY PREPLANT CORN STUDY  
 Researcher(s): J. CANTWELL and R. LIEBL Location: URBANA Field: C-400S  
 Design: RCB Reps: 3 Trts: 33 Plot size: 10 ft X 40 ft

Soil Type(s): FLANAGAN SILT LOAM/DRUMMER SILTY CLAY LOAM  
 Drainage: G (E-G-F-P) % O.M.: 4 pH: 5.8 % Slope: 0-2  
 P test #/A: 90 K test #/A: 381

Fert # applied/A N: 200 P: 0 K: 0 Form: UREA

Crop Current Crop: CORN Cultivar: PIONEER 3377 Previous Crop: SOYBEANS  
 Planting Date: 05-14-86 Rate: 26,000 PPA Depth: 2.0 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: NONE  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	EPP	PRE	POST
Date mm/dd/yy		04/04/86	05/18/86	06/10/86
Time (24 hr clk)		14 to 15	14 to 15	06 to 07
Crop stage lf/in		0/0	0/0	5 1/12 i
Soil Temp F		--	--	--
Soil Moist W-A-D		--	--	--
Air Temp F		65	75	80
% R.H.		--	--	--
Wind spd/dir		4/SSE	2-5/E	5-8/SSW
% overcast		--	--	--
% residue		--	--	--
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		18	18	18
Spray system **		HH	HH	HH
Band width in.		--	--	--
Nozzle type		FF 8003	FF 8002	FF 8002
Nozzle ht. in		20	20	20
Pressure lbs.		40	40	40
Speed mph		3	3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: POST

Species GIFT

Stage: 1f/in 3/4"

Density: #/sq ft --

Species VELE

Stage: 1f/in 5/12"

Density: #/sq ft --

Species JIWE

Stage: 1f/in 2/6"

Density: #/sq ft --

Species CODA

Stage: 1f/in 3/6"

Density: #/sq ft --

EARLY PREPLANT CORN STUDY

URBANA C-S400 P.1

TREATMENT	APPL.	RATE LB AI/AC	RATING DATE	% WEED CONTROL					
				GIFT	RRPW	VELE	COLQ	JIWE	CODA
BLADEX+COC/ ATRAZINE+COC	EPP POST	2.0+1QT 2.0+1QT	6/11	50	68	60	95	87	100
BLADEX+COC/ TANDEM+ ATRAZINE+COC	EPP POST	2.0+1QT 0.5+ 1.5+1QT	6/11 6/20	42 52	65 100	57 100	88 100	80 100	100 100
BLADEX+COC/ DUAL+ ATRAZINE	EPP PRE	2.0+1QT 2.0+ 1.5	6/11 6/20	93 93	100 100	97 97	100 100	100 100	93 93
BLADEX+COC/ ATRAZINE+COC	EPP POST	2.0+1QT 2.0+1QT	6/11 6/20	93 96	100 100	100 100	100 100	100 100	92 95
DUAL+ ATRAZINE+ PPG1259/ DUAL	EPP  PRE	2.5 1.0+ 0.15 2.0	6/20	98	100	97	100	100	97
DUAL+ ATRAZINE+ PPG1259/ DUAL	EPP  PRE	2.5 1.5 0.15 2.0	6/20	98	100	100	100	100	100
LASSO+ATRAZ PM/ LASSO+ATRAZ PM	EPP PRE	3.0 2.0	6/20	77	100	90	100	100	100
LASSO+ATRAZ PM/ LASSO+ATRAZ PM	EPP PRE	3.5 2.5	6/20	88	100	93	100	100	100
ATRAZINE/ LASSO+ATRAZ PM	EPP PRE	2.0 4.0	6/20	57	100	100	100	100	97
BLADEX/ LASSO+ATRAZ PM	EPP PRE	1.0 4.0	6/20	48	100	90	100	100	100
ATRAZINE/ LASSO+ BLADEX	EPP PRE	2.0 2.5 1.5	6/20	44	100	97	100	100	100
DUAL+ ATRAZINE	EPP/PRE 100/0	2.5 2.0	6/20	82	97	77	100	93	100

EARLY PREPLANT CORN STUDY

URBANA C-S400 P.2

TREATMENT	APPL.	RATE LB AI/AC	RATING DATE	% WEED CONTROL					
				GIFT	RRPW	VELE	COLQ	JIWE	CODA
DUAL+ ATRAZINE	EPP/PRE 67 /33	2.5 2.0	6/20	93	100	92	100	100	100
LASSO+ ATRAZINE	EPP/PRE 100/0	3.0 2.0	6/20	77	100	50	100	97	97
LASSO+ ATRAZINE	EPP/PRE 67 /33	3.0 2.0	6/20	80	100	87	100	100	90
LASSO+ ATRAZINE	EPP/PRE 100/0	3.0 2.0	6/20	75	100	85	100	100	100
LASSO+ ATRAZINE	EPP/PRE 67 /33	3.0 2.0	6/20	90	100	98	100	100	98
BLADEX	EPP/PRE 100/0	3.0	6/20	26	77	80	100	93	100
BLADEX	EPP/PRE 67 /33	3.0	6/20	67	97	99	100	99	100
BLADEX	EPP/PRE 100/0	4.0	6/20	80	90	88	100	100	100
BLADEX	EPP/PRE 67 /33	4.0	6/20	92	97	88	100	100	100
BLADEX+ ATRAZINE	EPP/PRE 100/0	2.0 1.0	6/20	70	97	86	100	100	100
BLADEX+ ATRAZINE	EPP/PRE 67 /33	2.0 1.0	6/20	87	100	97	100	100	100
BLADEX+ ATRAZINE	EPP/PRE 100/0	3.0 1.5	6/20	88	100	93	100	100	72
BLADEX+ ATRAZINE	EPP/PRE 67 /33	3.0 1.5	6/20	96	100	100	100	100	95
BLADEX/ DUAL	EPP PRE	3.0 2.5	6/20	78	97	83	97	100	100
BLADEX/ LASSO	EPP PRE	3.0 3.0	6/20	65	97	87	100	100	98

TREATMENT	APPL.	RATE LB AI/AC	RATING DATE	% WEED CONTROL					
				GIFT	RRPW	VELE	COLQ	JIWE	CODA
BLADEX/ LASSO	EPP PRE	3.0 3.0	6/20	95	98	97	100	100	100
ATRAZINE/ DUAL	EPP PRE	2.0 2.5	6/20	68	100	92	100	100	95
ATRAZINE/ LASSO	EPP PRE	2.0 3.0	6/20	60	100	80	100	100	100
ATRAZINE/ LASSO	EPP PRE	2.0 3.0	6/20	89	100	88	100	98	100
SENCOR+ DUAL	EPP	0.5 2.5	6/20	92	97	85	100	80	90
SENCOR+ DUAL	EPP	0.75 2.5	6/20	90	97	92	100	97	100

Exp. Title: NO-TILL CORN WEED CONTROL STUDY I  
Researcher(s): J. CANTWELL and R. LIEBL Location: URBANA Field: C-400M  
Design: RCB Reps: 3 Trts: 14 Plot size: 10 ft X 37 ft

Soil Type(s): FLANAGAN SILT LOAM/DRUMMER SILTY CLAY LOAM  
Drainage: G (E-G-F-P) % O.M.: 4 pH: 5.8 % Slope: 0-2  
P test #/A: 90 K test #/A: 381

Fert # applied/A N: 200 P: 0 K:0 Form: UREA

Crop Current Crop: CORN Cultivar: PIONEER 3377 Previous Crop: SOYBEANS  
Planting Date: 05-14-86 Rate: 26,00 PPA Depth: 2.0 inches  
Row Spacing: 30 inches

Till\* Fall: NONE Spring: NONE  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	KND/PRE
	Date mm/dd/yy	05/13/86
	Time (24 hr clk)	15 to 17
	Crop stage lf/in	0/0
	Soil Temp F	--
	Soil Moist W-A-D	--
	Air Temp F	80
	% R.H.	--
	Wind spd/dir	5-8/SSW
	% overcast	0
	% residue	--
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	18
	Spray system **	HH
	Band width in.	--
	Nozzle type	FF 8002
	Nozzle ht. in	20
	Pressure lbs.	40
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: KND/PRE

Species GIFT  
Stage: 1f/in --/4-6  
Density: #/sq ft --

Species PESW  
Stage: 1f/in --/8-10  
Density: #/sq ft --

Species VELE  
Stage: 1f/in --/6-8  
Density: #/sq ft --

Species JIWE  
Stage: 1f/in --/6-8  
Density: #/sq ft --

Species PWSP  
Stage: 1f/in --/6-8  
Density: #/sq ft --

NO-TILL CORN WEED CONTROL STUDY I

URBANA C-400M

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/11/86)			
				GIFT	RRPW	VELE	PESW
IGNITE+ BICEP	1.67E 6L	PRE	1.0 1 GAL	100	100	100	100
IGNITE+ BICEP	1.67E 6L	PRE	0.75 1 GAL	100	100	100	100
IGNITE+ BICEP	1.67E 6L	PRE	0.50 1 GAL	98	100	99	100
ROUNDUP+ LASSO/AATREX	4L 4L	PRE	1.0 1 GAL	98	100	98	100
ROUNDUP+ LASSO/AATREX	4L 4L	PRE	0.75 1 GAL	100	100	100	100
ROUNDUP+ LASSO/AATREX	3E 4L	PRE	0.50 1 GAL	98	100	97	100
PARAQUAT+ LASSO/AATREX	2S 4L	PRE	0.50 1 GAL	93	100	98	90
PARAQUAT+ 2,4-D AMINE	2S 3.8E	PRE	0.25 0.5	33	100	100	97
POAST+ 2,4-D	1.5E 3.8E	PRE	0.20 0.50	25	100	97	93
PARAQUAT+ LASSO/AATREX	2S 4L	PRE	0.25 1 GAL	87	100	97	77
PARAQUAT+ GOAL+ LASSO/AATREX	2S 1.6E 4L	PRE	0.25 0.125 1 GAL	88	100	90	75
PARAQUAT+ GOAL+ LASSO/AATREX	2S 1.6E 4L	PRE	0.25 0.25 1 GAL	92	100	93	83
POAST+ BICEP+	1.5E 6L	PRE	0.20 1 GAL	78	100	100	93
PARAQUAT+ LOROX+ LASSO/AATREX	2S 75DF 4L	PRE	0.25 0.125 1 GAL	93	100	100	90

Exp. Title: NO-TILL CORN WEED CONTROL STUDY II  
 Researcher(s): J. CANTWELL and R. LIEBL Location: URBANA Field: C-700  
 Design: RCB Reps: 3 Trts: 33 Plot size: 10 ft X 40 ft

Soil Type(s): FLANAGAN SILT LOAM  
 Drainage: F (E-G-F-P) % O.M.: 5 pH: 6.3 % Slope: 0-2  
 P test #/A: 76 K test #/A: 380

Fert # applied/A N: 200 P: K: Form: UREA

Crop Current Crop: CORN Cultivar: PIONEER 3377 Previous Crop: SOYBEANS  
 Planting Date: 05-23-86 Rate: 26,000 PPA Depth: 2.0 inches  
 Row Spacing: 30 inches

Ill\* Fall: NONE Spring: NONE  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	KND/PRE	POST
	Date mm/dd/yy	05/27/86	06/10/86
	Time (24 hr clk)	06 to 07	06 to 07
	Crop stage lf/in	0/0	7/14
	Soil Temp F	--	--
	Soil Moist W-A-D	--	--
	Air Temp F	75	85
	% R.H.	--	--
	Wind spd/dir	3-5/NNW	5-8/SSW
	% overcast	--	--
	% residue	--	--
	Carrier type	H <sub>2</sub> O	H <sub>2</sub> O
	Carrier rate gpa	18	18
	Spray system **	HH	HH
	Band width in.	--	--
	Nozzle type	FF 8002	FF 8002
	Nozzle ht. in	20	20
	Pressure lbs.	40	40
	Speed mph	3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	KND/PRE	POST
Species	GIFT	GIFT
Stage: lf/in	--/4-6	--/1-2
Density: #/sq ft	--	--
Species	VELE	VELE
Stage: lf/in	--/6-8	--/1-2
Density: #/sq ft	--	--
Species	JIWE	JIWE
Stage: lf/in	--/6-8	--/1-2
Density: #/sq ft	--	--
Species	RRPW	RRPW
Stage: lf/in	--/6-8	--/1-2
Density: #/sq ft	--	--
Species	CODA	CODA
Stage: lf/in	--/12	--/12
Density: #/sq ft	--	--

NO-TILL CORN WEED CONTROL STUDY II

URBANA C-700 P.1

TREATMENT	FORM.	APPL.	RATE LB AI/AC	RATING DATE	% WEED CONTROL				
					GIFT	VELE	RRPW	PRSI	COLQ
DUAL+ IGNITE/ 2,4-D	8E 1.67L 3.8L	PRE  POST	1.7 0.75 0.5	6/26	100	100	100	100	100
DUAL+ IGNITE/ 2,4-D	8E 1.67L 3.8L	PRE  POST	2.0 0.89 0.5	6/26	100	100	97	97	100
DUAL IGNITE/ 2,4-D	8E 1.67L 3.8L	PRE  POST	2.5 1.11 0.5	6/26	98	100	100	100	100
BRONCO/ 2,4-D	4L 3.8L	PRE POST	3.5 0.5	6/26	100	100	100	100	100
BRONCO/ 2,4-D	4L 3.8L	PRE POST	4.0 0.5	6/26	100	100	100	100	100
BICEP+ IGNITE	4.5L 1.67L	PRE	3.0 0.75	6/26	90	93	98	100	100
BICEP+ IGNITE	4.5L 1.67L	PRE	4.5 1.11	6/26	98	97	100	100	100
IGNITE/ TANDEM+ ATRAZINE+COC	1.67L 4L 4L	KND POST	0.75 0.5 1.5+1QT	6/18  6/26	90  100	100  100	77  100	93  100	100  100
IGNITE/ TANDEM+ ATRAZINE+COC	1.67L 4L 4L	KND POST	1.0 0.5 1.5+1QT	6/18  6/26	83  100	88  100	58  100	85  100	100  100
ROUNDUP/ TANDEM+ ATRAZINE+COC	4L 4L 4L	KND POST	0.75 0.5 1.5+1QT	6/18  6/26	85  98	95  100	33  100	100  100	93  100
ROUNDUP+ 2,4-D/ TANDEM+ ATRAZINE+COC	4L 3.8L 4L 4L	KND  POST	0.75 0.38 0.5 1.5+1QT	6/18  6/26	88  100	100  100	33  100	100  100	100  100
PARAQ+X77/ TANDEM+ ATRAZINE+COC	2L 4L 4L	KND POST	0.25 0.5 1.5+1QT	6/18  6/26	70  92	75  100	57  100	100  100	77  100

NO-TILL CORN WEED CONTROL STUDY II

URBANA C-700 P.2

TREATMENT	FORM.	APPL.	RATE LB AI/AC	RATING DATE	% WEED CONTROL				
					GIFT	VELE	RRPW	PRSI	COLQ
PARAQ+X-77/ TANDEM+	2L 4L	KND POST	0.50 0.5	6/18	70	93	70	100	100
ATRAZINE+COC	4L		1.5+1QT	6/26	92	100	100	100	100
PARAQ+ GOAL+X-77/ TANDEM+	2L 1.6L 4L	KND  POST	0.25 0.12 0.5	6/18  6/26	87  93	95  98	97  100	100  100	100  100
ATRAZINE+COC	4L		1.5+1QT						
PARAQ+ LOROX+X-77/ TANDEM+	2L 50DF 4L	KND  POST	0.25 0.12 0.5	6/18  6/26	92  100	93  100	92  100	100  100	100  100
ATRAZINE+COC	4L		1.5+1QT						
BRONCO/ BUCTRIL	4L 2L	PRE POST	3.5 0.38	6/18 6/26	97 100	95 100	88 100	100 100	100 100
BRONCO/ BUCTRIL+ ATRAZINE	4L 2L 4L	PRE POST	3.5 0.25 0.5	6/18  6/26	95  100	97  100	97  100	100  100	100  100
BRONCO/ STARANE	4L 1.67L	PRE POST	3.5 0.38	6/18 6/26	97 100	100 100	100 100	100 100	100 100
BRONCO/ LONTREL	4L 3L	PRE POST	3.5 0.25	6/26	100	97	97	93	100
BRONCO/ DPX-M6316	4L 75DF	PRE POST	3.5 0.38OZ	6/26	100	100	100	100	100
BRONCO/ 2,4-D	4L 3.8L	PRE POST	3.5 0.38	6/26	100	100	100	100	100
BRONCO/ BANVEL	4L 4L	PRE POST	3.5 0.25	6/18 6/26	100	100	100	100	100
CHECK(ROUNDUP)	4L	KND	0.75	6/26	0	0	0	0	0
ATRAZINE+ BLADEX+COC	4L 4L	PRE	1.5 1.5+1QT	6/26	85	88	100	100	100
ATRAZINE+ BLADEX+COC	4L 4L	PRE	2.0 1.0+1QT	6/26	67	93	100	100	100

NO-TILL CORN WEED CONTROL STUDY II

URBANA C-700 P.3

TREATMENT	FORM.	APPL.	RATE LB AI/AC	RATING DATE	% WEED CONTROL				
					GIFT	VELE	RRPW	PRSI	COLQ
ATRAZINE+ BLADEX+COC	4L 4L	PRE	1.0 2.0+1QT	6/26	62	88	100	100	100
ATRAZINE+ BLADEX+COC	4L 4L	PRE	0.75 2.25+1QT	6/26	68	100	100	100	100
ATRAZINE+ BLADEX+COC	4L 4L	PRE	2.0 2.0+1QT	6/26	65	98	100	100	100
ATRAZINE+ BLADEX+COC	4L 4L	PRE	1.3 2.7+1QT	6/26	83	100	100	100	100
ATRAZINE+ BLADEX+COC	4L 4L	PRE	1.0 3.0+1QT	6/26	77	100	100	100	100
ATRAZINE+COC	4L	PRE	2.0+1QT	6/26	63	97	100	100	100
BLADEX+COC	4L	PRE	2.25+1QT	6/26	55	65	100	100	100
CHECK (ROUNDUP)	4L	KND	0.75	6/26	0	0	0	0	0

Exp. Title: NO-TILL CORN WEED CONTROL STUDY III  
 Researcher(s): J. CANTWELL and R. LIEBL Location: URBANA Field: C-400S  
 Design: RCB Reps: 3 Trts: 28 Plot size: ft X ft

Soil Type(s): FLANAGAN SILT LOAM/DRUMMER SILTY CLAY LOAM  
 Drainage: G (E-G-F-P) % O.M.: 4 pH: 5.8 % Slope: 0-2  
 P test #/A: 90 K test #/A: 381

Fert # applied/A N: 200 P: 0 K: 0 Form: UREA

Crop Current Crop: CORN Cultivar: PIONEER 3377 Previous Crop: SOYBEANS  
 Planting Date: 05-14-86 Rate: 26,000 PPA Depth: 2.0 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: NONE  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	KND/PRE	POST
Date mm/dd/yy	05/18/86	06/10/86	
Time (24 hr clk)	06 to 07	06 to 07	
Crop stage lf/in	0/0	7 1/14 i	
Soil Temp F	--	--	
Soil Moist W-A-D	--	--	
Air Temp F	75	85	
% R.H.	--	--	
Wind spd/dir	5-8/SSW	5-10/W	
% overcast	--	--	
% residue	--	--	
Carrier type	H <sub>2</sub> O	H <sub>2</sub> O	
Carrier rate gpa	16	16	
Spray system **	HH	HH	
Band width in.	--	--	
Nozzle type	FF 8002	FF 8002	
Nozzle ht. in	20	20	
Pressure lbs.	40	40	
Speed mph	3	3	

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: KND/PRE

Species GIFT  
Stage: 1f/in --/4-6  
Density: #/sq ft --

Species PESW  
Stage: 1f/in --/8-10  
Density: #/sq ft --

Species VELE  
Stage: 1f/in --/6-8  
Density: #/sq ft --

Species JIWE  
Stage: 1f/in --/6-8  
Density: #/sq ft --

Species PWSP  
Stage: 1f/in --/6-8  
Density: #/sq ft --

Notes: 10-20% CROP INJURY WAS CAUSED BY PPG-1259.

POSTEMERGENCE APPLICATION WAS MADE WHEN CORN WAS AT THE 7-LEAF STAGE. LARGE DIFFERENCES IN WEED SIZES WERE NOTED BETWEEN TREATMENTS. WEEDS WERE NOT ADEQUATELY CONTROLLED AT PLANTING IN PLOTS TREATED WITH TRIAZINE AND COC, WHEREAS ROUND-UP OR IGNITE CONTROLLED CA 100% OF THE EMERGED VEGETATION AT PLANTING. AS A RESULT, WEEDS WERE 1-2 INCHES IN PLOTS PREVIOUSLY TREATED WITH ROUND-UP/IGNITE AND 10-12 INCHES IN THE REMAINING PLOTS ON 06-10-86.

NO-TILL CORN WEED CONTROL STUDY III

URBANA C-400S P.1

TREATMENT	APPL.	RATE LB AI/AC	RATING DATE	% WEED CONTROL				
				GIFT	RRPW	PESW	VELE	JIWE
BLADEX+COC/ ATRAZINE+COC	PRE	2.0+1QT	6/11	33	50	93	88	100
	POST	2.0+1QT	6/19	43	100	100	100	100
BLADEX+COC/ TANDEM+ ATRAZINE+COC	PRE	2.0+1QT	6/11	43	77	100	97	100
	POST	0.5	6/19	56	97	100	100	100
		1.5+1QT						
BLADEX+ DUAL+ ATRAZINE+COC	PRE	2.0	6/11	33	100	100	100	100
		2.0	6/19	30	100	100	100	100
		1.5+1QT						
BLADEX+COC/ ATRAZINE+COC	PRE	2.0+1QT	6/11	25	60	87	83	93
	POST	2.0+1QT	6/19	35	100	100	100	100
ROUNDUP/ TANDEM+ ATRAZINE+COC	PRE	1.0	6/11	33	25	100	83	25
	POST	0.5	6/19	94	100	100	100	100
		1.5+1QT						
ROUNDUP+ DUAL+ ATRAZINE	PRE	1.0	6/11	98	98	100	93	100
		2.0	6/19	95	98	100	87	100
		1.5						
ROUNDUP/ ATRAZINE+COC	PRE	1.0	6/11	42	25	100	87	33
	POST	2.0+1QT	6/19	85	100	100	93	100
ROUNDUP+ DUAL+ ATRAZINE+ PPG-1259	PRE	1.0	6/19	93	100	100	100	93
		2.5						
		1.0						
		0.15						
ROUNDUP+ DUAL+ ATRAZINE+ PPG-1259	PRE	1.0	6/19	95	100	100	100	100
		2.5						
		1.5						
		0.15						
ROUNDUP+ DUAL+ ATRAZINE/ ATRAZINE+ PPG-1259	PRE	1.0	6/11	48	100	100	97	90
		2.5	6/19	98	100	100	100	100
		2.0						
	POST	0.5						
		0.1						

NO-TILL CORN WEED CONTROL STUDY III

URBANA C-400S P.2

TREATMENT	APPL.	RATE LB AI/AC	RATING DATE	% WEED CONTROL				
				GIFT	RRPW	PESW	VELE	JIWE
ROUNDUP+	PRE	1.0	6/11	100	100	100	100	100
DUAL+		2.5						
ATRAZINE+		1.0						
PPG-1259/		0.15						
ATRAZINE+	POST	0.5	6/19	100	100	100	100	100
PPG-1259		0.1						
ROUNDUP+	PRE	1.0	6/19	98	100	100	100	100
SUTAN ENCAP/		4.0						
2,4-D	POST	0.5						
ROUNDUP+	PRE	1.0	6/19	95	100	100	100	100
SUTAN ENCAP/		6.0						
2,4-D	POST	0.5						
ROUNDUP+	PRE	1.0	6/19	92	100	100	100	100
SUTAN FERT/		4.0						
2,4-D	POST	0.5						
ROUNDUP+	PRE	1.0	6/19	100	100	100	100	100
SUTAN ENCAP+		4.0						
ATRAZINE/		2.0						
ROUNDUP+	PRE	1.0	6/19	99	100	100	100	100
SUTAN ENCAP+		6.0						
ATRAZINE		2.0						
ROUNDUP+	PRE	1.0	6/19	97	100	100	100	100
ERADICANE ENCAP/		4.0						
2,4-D	POST	0.5						
ROUNDUP+	PRE	1.0	6/19	100	100	100	100	100
ERADICANE ENCAP/		6.0						
2,4-D	POST	0.5						
ROUNDUP+	PRE	1.0	6/19	100	100	100	100	100
ERADICANE ENCAP+		4.0						
ATRAZINE		2.0						
ROUNDUP+	PRE	1.0	6/19	100	100	100	100	100
ERADICANE ENCAP+		6.0						
ATRAZINE		2.0						
ROUNDUP+	PRE	1.0	6/19	94	98	100	98	100
LASSO+ATRAZINE PM		4.0						

NO-TILL CORN WEED CONTROL STUDY III

URBANA C-400S P.3

TREATMENT	APPL.	RATE LB AI/AC	RATING DATE	% WEED CONTROL				
				GIFT	RRPW	PESW	VELE	JIWE
ROUNDUP+ LASSO+ATRAZINE PM	PRE	1.0 5.0	6/19	98	100	100	100	100
ATRAZINE+ BLADEX+COC	PRE	1.5 1.5+1 QT	6/19	67	98	100	98	100
ATRAZINE+ BLADEX+COC	PRE	1.0 2.0+1QT	6/19	50	100	100	100	100
ATRAZINE+ BLADEX+COC	PRE	0.75 2.25+1QT	6/19	33	100	100	100	100
ROUNDUP+ SUTAN PLUS/ 2,4-D	PRE	1.0 4.0	6/19	88	100	100	100	100
	POST	0.5						
ROUNDUP+ SUTAN PLUS/ 2,4-D	PRE	1.0 6.0	6/19	87	100	100	100	100
	POST	0.5						
ROUNDUP+ SUTAN FERT+ ATRAZINE	PRE	1.0 4.0 1.5	6/19	95	100	100	100	100

Exp. Title: SOYBEAN PREPLANT INCORPORATED/PREEMERGENCE STUDY  
 Researcher(s): LIEBL, WAX, ORFANEDES Location: URBANA Field: ANS-200  
 Design: RCB Reps: 3 Trts: 42 Plot size: 10 ft X 40 ft

Soil Type(s): BRENTON SILT LOAM/DRUMMER SILTY CLAY LOAM  
 Drainage: F (E-G-F-P) % O.M.: 5 pH: 6.1 % Slope: 0-2  
 P test #/A: 49 K test #/A: 380

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: HACK Previous Crop: CORN  
 Planting Date: 05/08/86 Rate: 60#/A Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: C Spring: F, F Incorp Method: O-SEEDBED FINISHER  
 Incorp Depth: 2-4 inches Incorp Time: 1 hr

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PPI	PRE
	Date mm/dd/yy	05/08/86	05/12/86
	Time (24 hr clk)	07 to 08	15 to 17
	Crop stage lf/in	0/0	0/0
	Soil Temp F	68	70
	Soil Moist W-A-D	A	A
	Air Temp F	68	80
	% R.H.	75	65
	Wind spd/dir	6/SE	7/NE
	% overcast	10	30
	% residue	0	0
	Carrier type	H <sub>2</sub> O	H <sub>2</sub> O
	Carrier rate gpa	18	18
	Spray system **	HH	HH
	Band width in.	--	--
	Nozzle type	FF 8003	FF 8003
	Nozzle ht. in	20	20
	Pressure lbs.	26	26
	Speed mph	3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	PPI	PRE
Species	MGSP	MGSP
Stage: lf/in	COTL.	COTL.
Density: #/sq ft	<.50	<.50
Species	GIFT	GIFT
Stage: lf/in	1/0.5	1/0.5
Density: #/sq ft	5	5
Species	JIWE	JIWE
Stage: lf/in	COTL.	COTL.
Density: #/sq ft	1-3	1-3

Notes: LIGHT RAIN OCCURRED WITHIN TWENTY-FOUR HOURS AFTER APPLICATION.

SOYBEAN PREPLANT INCORPORATED/PREEMERGENCE STUDY

URBANA ANS-200

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/11)			
				GIFT	JIWE	MGSP	VELE
PROWL+SCEPTER	PM 8:1	PPI	1.0+0.125	88	68	68	83
PROWL+SCEPTER	PM 6:1	PPI	0.75+0.125	91	83	73	81
PROWL+SCEPTER	4EC 1.5L	PPI	1.0 0.125	90	50	61	73
PROWL+PURSUIT	4EC 1.92L	PPI	1.0 0.074	89	64	67	82
PROWL+PURSUIT	4EC 1.92L	PPI	1.0 0.094	92	71	67	87
PROWL+PURSUIT	4EC 1.92L	PPI	1.25 0.094	86	76	67	90
DPX-L8348	75DF	PPI	0.38	69	79	42	81
DPX-L8348	75DF	PPI	0.5	64	76	59	85
METRIBUZIN	75DF	PPI	0.34	47	66	39	83
METRIBUZIN	75DF	PPI	0.45	56	85	53	90
SONALAN+COMMAND	3EC 6EC	PPI	0.75 0.56	96	82	76	93
SONALAN+COMMAND	3EC 6EC	PPI	0.94 0.56	94	81	73	91
SONALAN+COMMAND+METRIBUZIN	3EC 6EC 75DF	PPI	0.75 0.56 0.25	93	83	70	95
SONALAN+COMMAND	3EC 6EC	PPI	0.94 0.38	93	78	57	81
PREFLAN+COMMAND	4EC 6EC	PPI	0.75 0.56	84	64	55	84
PREFLAN+COMMAND+METRIBUZIN	4EC 6EC 75DF	PPI	0.75 0.56 0.25	94	93	61	93
MODOWN+LASSO	4F 4MT	PPI	2.0 3.0	84	42	38	59

SOYBEAN PREPLANT INCORPORATED/PREEMERGENCE STUDY

URBANA ANS-200 P.2

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/11)			
				GIFT	JIWE	MGSP	VELE
MODOWN+	4F	PPI	2.0	83	26	27	51
DUAL	8E		2.5				
MODOWN+	4F	PPI	2.0	91	85	54	88
DUAL+	8E		2.5				
METRIBUZIN	75DF		0.5				
CINCH+	7E+	PPI	0.63	99	82	40	95
METRIBUZIN/	75DF		0.22				
CINCH+	7E+	PRE	0.63				
METRIBUZIN	75DF		0.22				
CINCH/	7E	PPI/	0.63	100	76	48	92
CINCH+	7E	PRE	0.63				
METRIBUZIN	75DF		0.45				
CINCH+	7E	PPI	0.63	99	63	54	82
SCEPTER/	1.5L		0.07				
CINCH+	7E	PRE	0.63				
SCEPTER	1.5L		0.07				
TREFLAN+	4EC	PPI	1.0	88	71	58	74
METRIBUZIN	75DF		0.5				
MFR 13327	4E	PPI	1.5	89	79	52	87
METRIBUZIN+	75DF	PPI	0.25	93	90	74	93
TREFLAN+	4EC		1.0				
SCEPTER	1.5L		0.125				
SONALAN+	3EC	PPI	0.94	89	83	70	90
METRIBUZIN	75DF		0.4				
SELECT	2L	PPI	0.25	27	0	0	0
SELECT	2L	PRE	0.25	39	0	0	0
DUAL+	8E	PPI	2.0	88	81	29	76
METRIBUZIN	75DF		0.4				
CGA-180937+	7.8E	PPI	2.0	93	85	24	86
METRIBUZIN	75DF		0.4				

SOYBEAN PREPLANT INCORPORATED/PREEMERGENCE STUDY

URBANA ANS-200 P.3

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/11)			
				GIFT	JIWE	MGSP	VELE
SAN-582+ METRIBUZIN	8E 75DF	PPI	1.5 0.4	94	77	55	93
LASSO+ TREFLAN+ METRIBUZIN	4MT 4EC 75DF	PPI	2.0 0.75 0.5	92	84	45	89
CINCH+ SCEPTER	7E 1.5	PRE	1.25 0.125	99	58	30	83
DUAL+ PURSUIT	8E 1.92L	PRE	1.5 0.047	76	59	29	58
DUAL+ PURSUIT	8E 1.92L	PRE	1.5 0.094	95	90	68	87
DUAL+ PURSUIT	8E 1.92L	PRE	2.0 0.047	93	52	56	80
DUAL+ PURSUIT	8E 1.92L	PRE	2.0 0.094	93	90	68	92
LASSO+ PURSUIT	4MT 1.92L	PRE	1.75 0.094	88	85	50	79
LASSO+ PURSUIT	4MT 1.92L	PRE	2.5 0.094	94	92	55	91
DUAL+ METRIBUZIN	8E 75DF	PRE	2.0 0.4	94	85	52	93
CGA-180937+ METRIBUZIN	7.8E 75DF	PRE	2.0 0.4	99	96	69	97
UNTREATED CHECK				0	0	0	0

Exp. Title: SOYBEAN PREEMERGENCE STUDY I  
 Researcher(s): LIEBL, WAX, ORFANEDES Location: URBANA Field: ANS-200  
 Design: RCB Reps: 3 Trts: 28 Plot size: 10 ft X 40 ft

Soil Type(s): BRENTON SILT LOAM/DRUMMER SILTY CLAY LOAM  
 Drainage: F (E-G-F-P) % O.M.: 5 pH: 6.1 % Slope: 0-2  
 P test #/A: 49 K test #/A: 380

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: HACK Previous Crop: CORN  
 Planting Date: 05/08/86 Rate: 60#/A Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: C Spring: F, F, O-SEEDBED FINISHER  
 Incorp. Method: NONE Incorp Time: -- hrs Incorp Depth: --

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing \* PRE  
 Date mm/dd/yy 05/13/86  
 Time (24 hr clk) 07 to 09  
 Crop stage lf/in 0/0  
 Soil Temp F 70  
 Soil Moist W-A-D D  
 Air Temp F 73  
 % R.H. 75  
 Wind spd/dir 3/S  
 % overcast 50  
 % residue 0  
 Carrier type H<sub>2</sub>O  
 Carrier rate gpa 18  
 Spray system \*\* HH  
 Band width in. --  
 Nozzle type FF 8003  
 Nozzle ht. in 20  
 Pressure lbs. 26  
 Speed mph 3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	PRE
Species	MGSP
Stage: lf/in	COTL.
Density: #/sq ft	<0.50
Species	GIFT
Stage: lf/in	1/0.5
Density: #/sq ft	5
Species	JIWE
Stage: lf/in	1/0.5
Density: #/sq ft	1-3

Notes: LIGHT RAIN OCCURRED WITHIN 12 HOURS FOLLOWING APPLICATION.

SOYBEAN PREEMERGENCE STUDY I

URBANA ANS-200 P.1

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/12)			
				GIFT	JIWE	MGSP	VELE
LINEX	4L	PRE	0.5	72	62	34	71
LOROX	50DF	PRE	0.5	71	59	34	67
METRIBUZIN+ DUAL	75DF 8E	PRE	0.4 2.0	99	96	46	95
TURBO+ COMMAND	8EC 6EC	PRE	1.69 0.25	100	97	48	93
METRIBUZIN+ DUAL+ COMMAND	75DF 8E 6EC	PRE	0.3 2.0 0.25	100	97	68	97
TURBO+ SCEPTER	8EC 1.5L	PRE	1.69 0.08	98	97	80	97
METRIBUZIN+ DUAL+ SCEPTER	75DF 8E 1.5L	PRE	0.3 2.0 0.08	99	98	57	93
METRIBUZIN+ COMMAND	75DF 6EC	PRE	0.5 0.75	100	99	79	99
CINCH+ METRIBUZIN	7EC 75DF	PRE	1.25 0.4	100	96	65	95
CINCH+ SCEPTER	7EC 1.5L	PRE	1.25 0.125	99	89	64	90
LASSO+ SCEPTER	4MT 1.5L	PRE	2.5 0.125	94	96	71	63
CINCH	7EC	PRE	1.25	96	20	33	74
LASSO	4MT	PRE	2.5	98	73	53	63
PURSUIT	1.9L	PRE	0.1	84	80	29	80
COMMAND	6EC	PRE	1.0	97	94	50	95

SOYBEAN PREEMERGENCE STUDY I

URBANA ANS-200 P.2

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/12)			
				GIFT	JIWE	MGSP	VELE
CINCH+	7EC	PRE	1.25	99	83	68	76
PURSUIT	1.9L		0.1				
CINCH+	7EC	PRE	0.625	99	65	62	89
PURSUIT	1.9L		0.1				
CINCH+	7EC	PRE	1.25	96	42	51	79
PURSUIT	1.9L		0.05				
AMIBEN	75DS	PRE	2.5	91	57	55	83
AMIBEN+	75DS	PRE	2.0	99	81	24	91
COMMAND	6EC		0.5				
AMIBEN+	75DS	PRE	1.8	99	20	29	82
CINCH	7EC		1.0				
AMIBEN+	75DS	PRE	2.25	97	32	29	76
CINCH	7EC		0.75				
AMIBEN+	75DS	PRE	2.0	84	83	51	64
SCEPTER	1.5L		0.125				
UNTREATED CHECK				0	0	0	0

Exp. Title SOYBEAN PREEMERGENCE STUDY II  
 Researcher M. LOUX AND F. SLIFE Location URBANA Field N-200  
 Design: RCB Reps: 4 Trts: 41 Plot size: 10 ft X 35 ft

Soil Type(s): SIDEELL, CATLIN, and FLANAGAN SILT LOAMS/DRUMMER SILTY CLAY LOAM  
 Drainage: F-G (E-G-F-P) % O.M.: 4 pH: 6.2 % Slope: 1-3  
 P test #/A: 93 K test #/A: 241

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: WILLIAMS 82 Previous Crop: CORN  
 Planting Date: 05/08/86 Rate: 60#/A Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: C Spring: F, F, O-SEEDBED FINISHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing \* PRE  
 Date mm/dd/yy 05/09/86  
 Time (24 hr clk) 17 to 19  
 Crop stage lf/in 0/0  
 Soil Temp F --  
 Soil Moist W-A-D D  
 Air Temp F 75  
 % R.H. 50  
 Wind spd/dir 10/E  
 % overcast --  
 % residue 20  
 Carrier type H<sub>2</sub>O  
 Carrier rate gpa 25  
 Spray system \*\* HH  
 Band width in. --  
 Nozzle type FF 8003  
 Nozzle ht. in 20  
 Pressure lbs. 30  
 Speed mph 3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Notes: RAINFALL FOLLOWING APPLICATION: 1ST WEEK - 0.51 in. 2ND WEEK - 0.39  
 in. FIRST SIGNIFICANT RAINFALL FOLLOWING APPLICATION WAS 0.34 in. ON  
 MAY 15.

# WEED POPULATIONS IN CHECKS:

WEED	RANGE	MEAN
	(# per square meter)	
GIANT FOXTAIL	64 - 765	273
PIGWEEED SPP.	0 - 325	69
JIMSONWEED	0 - 108	18
MORNINGGLORY SPP.	0 - 45	18

SOYBEAN PREEMERGENCE STUDY II

URBANA N-200 P.1

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% INJURY	% WEED CONTROL (6/10)			
					GIFT	TAMG	SMPW	JIWE
COMMAND	6EC	PRE	0.25	0	75	7	17	73
COMMAND	6EC	PRE	0.5	0	90	17	30	68
COMMAND	6EC	PRE	1.0	0	99	54	86	94
COMMAND+ METRIBUZIN	6EC 75DF	PRE	0.5 0.25	0	99	7	90	85
COMMAND+ METRIBUZIN	6EC 75DF	PRE	0.5 0.38	0	99	17	100	97
COMMAND+ METRIBUZIN	6EC 75DF	PRE	1.0 0.38	0	98	35	96	90
PURSUIT	1.92L	PRE	0.06	0	64	25	97	37
PURSUIT	1.92L	PRE	0.12	0	75	52	99	78
SCEPTER	1.5L	PRE	0.06	0	39	7	52	25
SCEPTER	1.5L	PRE	0.12	0	50	30	90	35
COMMAND+ SCEPTER	6EC 1.5L	PRE	0.5 0.06	0	99	45	97	95
COMMAND+ SCEPTER	6EC 1.5L	PRE	0.5 0.12	0	96	37	93	93
COMMAND+ SCEPTER	6EC 1.5L	PRE	1.0 0.06	0	100	81	95	98
DPX-F6025	25DG	PRE	0.025	0	7	45	98	47
DPX-F6025	25DG	PRE	0.05	0	26	37	83	70
DPX-L8348	75DF	PRE	0.27	0	12	30	87	57
DPX-L8348	75DF	PRE	0.55	0	45	59	94	65
DPX-F6025+ COMMAND	25DG 6EC	PRE	0.025 0.5	0	98	40	87	97

SOYBEAN PREEMERGENCE STUDY II

URBANA N-200 P.2

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% INJURY	% WEED CONTROL (6/10)			
					GIFT	TAMG	SMPW	JIWE
DPX-F6025+ COMMAND	25DG 6EC	PRE	0.025 1.0	0	100	37	82	85
DPX-F6025+ COMMAND	25DG 6EC	PRE	0.05 0.5	0	95	42	87	86
LASSO+ METRIBUZIN	4EC 75DF	PRE	3.0 0.5	0	99	25	100	67
LASSO+ SCEPTER	4EC 1.5L	PRE	2.0 0.12	0	83	32	100	88
LASSO+ SCEPTER	4EC 1.5L	PRE	2.5 0.12	0	92	37	100	65
LASSO+ COMMAND	4EC 6EC	PRE	2.0 1.0	0	100	27	100	99
LASSO+ COMMAND	4EC 6EC	PRE	2.5 1.0	0	100	27	98	100
TURBO+	8EC	PRE	2.75	0	99	12	100	97
METRIBUZIN+ DUAL	75DF 8E	PRE	0.5 2.25	0	89	42	100	47
METRIBUZIN+ DUAL+ COMMAND	75DF 8E 6EC	PRE	0.38 2.0 0.25	0	92	35	99	83
METRIBUZIN+ DUAL+ SCEPTER	75DF 8E 1.5L	PRE	0.38 2.0 0.08	0	97	27	100	80
METRIBUZIN+ PROWL	75DF 4EC	PRE	0.38 1.0	0	81	37	85	77
METRIBUZIN+ PROWL+ COMMAND	75DF 4EC 6EC	PRE	0.38 1.0 0.25	0	91	42	76	97
METRIBUZIN+ PROWL+ SCEPTER	75DF 4EC 1.5L	PRE	0.38 1.0 0.08	0	89	42	100	57

SOYBEAN PREEMERGENCE STUDY II

URBANA N-200. P.3

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% INJURY	% WEED CONTROL (6/10)			
					GIFT	TAMG	SMPW	JIWE
GX-105	2.5L	PRE	0.5	0	78	15	53	33
GX-105	2.5L	PRE	1.0	0	92	20	92	57
GX-105	2.5L	PRE	2.0	0	94	37	92	45
MODOWN	4F	PRE	2.0	5	37	62	99	30
MODOWN+ LASSO	4F 4EC	PRE	2.0 3.0	35	95	88	100	97
MODOWN+ CINCH	4F 7E	PRE	2.0 1.5	20	96	82	100	48
AMIBEN	75DS	PRE	2.7	0	25	20	45	7
AMIBEN+ DUAL	75DS 8E	PRE	2.25 2.0	0	90	27	100	39
AMIBEN+ METRIBUZIN+ DUAL	75DS 75DF 8E	PRE	1.8 0.38 2.0	0	75	25	67	49

## SUMMARY

For most of the herbicides in this study, the amount and frequency of rainfall following application was inadequate for effective preemergence activity. Command retained more activity than any other herbicide under these rainfall conditions, with the 1.0 lb rate providing adequate control of giant foxtail and jimsonweed when applied alone. The 0.5 lb rate of Command applied in combination with 0.38 lb of metribuzin or any rate of Scepter provided control of foxtail, jimsonweed, and pigweed. When applied alone, Pursuit, Scepter, DPX-F6025, or DPX-8348 provided control of pigweed only. Dual and Lasso controlled foxtail when applied at labeled rates with metribuzin, or applied at reduced rates in combination with 1.0 lb of Command. Control of tall morningglory was poor overall, with greater than 80% control resulting mainly from Modown applications. However, one combination treatment of Command and Scepter also provided greater than 80% control of morningglory. Crop injury occurred only in treatments where Modown was applied.

Exp. Title: SOYBEAN PREEMERGENCE/POSTEMERGENCE BROADLEAF STUDY  
 Researcher(s): LIEBL, WAX, ORFANEDES Location: URBANA Field: C-500  
 Design: RCB Reps: 3 Trts: 49 Plot size: 10 ft X 40 ft

Soil Type(s): FLANAGAN SILT LOAM/CATLIN SILT LOAM  
 Drainage: G (E-G-F-P) % O.M.: 4 pH: 6.1 % Slope: 0-2  
 P test #/A: 50 K test #/A: 340

Fert # applied/A N:0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: WELLS II Previous Crop: CORN  
 Planting Date: 05/09/86 Rate: 60#/A Depth: 1.5 inches  
 Row Spacing: 30 inches

Fill\* Fall: C Spring: F, F, O-SEEDBED FINISHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PRE	POST	LPO
Date mm/dd/yy		05/13/86	06/11/86	06/24/86
Time (24 hr clk)		13 to 14	19 to 21	14 to 15
Crop stage lf/in		0/0	5/7	8/10
Soil Temp F		69	72	75
Soil Moist W-A-D		D	A	D
Air Temp F		80	68	80
% R.H.		50	70	45
Wind spd/dir		8/SW	15/W	8/NE
% overcast		10	80	10
% residue		10	5	5
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		18	18	18
Spray system **		HH	HH	HH
Band width in.		--	--	--
Nozzle type		FF 8003	FF 8003	FF 8003
Nozzle ht. in		20	20	20
Pressure lbs.		30	30	30
Speed mph		3	3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	POST	LPO
Species	VELE	VELE
Stage: lf/in	6/6	7/7
Density: #/sq ft	4	4
Species	SMPW	SMPW
Stage: lf/in	6/6	8/7
Density: #/sq ft	2	2
Species	JIWE	JIWE
Stage: lf/in	4/6	6/7
Density: #/sq ft	2	2
Species	GIFT	GIFT
Stage: lf/in	5/6	7/9
Density: #/sq ft	8	8
Species	COLQ	COLQ
Stage: lf/in	6/4	8/5
Density: #/ sq ft	<1	<1

Notes: WEEDS WERE GROWING RAPIDLY UNDER FAVORABLE CONDITIONS AT THE TIME OF THE FIRST POSTEMERGENCE APPLICATION. DRY WEATHER COINCIDED WITH THE LATE POST (LPO) APPLICATION.

SOYBEAN PREEMERGENCE/POSTEMERGENCE BROADLEAF STUDY

URBANA C-500 P.1

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/26)					% INJ.
				GIFT	VELE	JIWE	SMPW	COLQ	
CLASSIC+X-77	25DF	POST	0.1250Z +0.25%	59	68	92	94	83	7
CLASSIC+X-77	25DF	POST	0.1870Z +0.25%	24	81	93	94	87	0
PURSUIT+ CLASSIC+X-77	1.92L 25DF	POST	0.1 0.1250Z +0.25%	80	57	93	92	92	13
CLASSIC+X-77/ CLASSIC+X-77	25DF 25DF	POST LPO	0.1250Z +0.25% 0.1250Z +0.25%	36	59	89	92	88	7
BENAZOLIN+COC	4L	POST	0.38+1QT	55	79	91	93	90	17
BENAZOLIN+VAR50	4L	POST	0.38+1%	41	54	90	91	90	7
BENAZOLIN+ BLAZER+AG-98	4L 2L	POST	0.25 0.25+0.125%	46	70	93	93	86	17
COBRA+X-77	2EC	POST	0.15+0.25%	34	56	93	94	92	18
COBRA	2EC	POST	0.15	54	45	94	93	92	13
COBRA+ BASAGRAN+COC	2EC 4S	POST	0.15 0.5+1PT	40	90	94	94	93	15
COBRA+ FUSILADE+X-77	2EC 1EC	POST	0.2 0.188+0.25%	71	88	94	94	90	23
COBRA+ POAST+COC	2EC 1.5L	POST	0.2 0.2+1QT	80	87	94	92	82	27
TACKLE	2AS	POST	0.38	71	50	94	93	80	7
TACKLE+X-77	2AS	POST	0.38+0.25%	71	68	94	94	93	15
TACKLE	2AS	POST	0.5	90	69	93	94	90	7
TACKLE+X-77	2AS	POST	0.5+0.25%	79	84	94	93	90	13
TACKLE	2AS	POST	0.75	74	61	95	92	83	17
TACKLE+ BASAGRAN+COC	2AS 4S	POST	0.38 0.5+1PT	85	84	94	94	95	27
TACKLE+ BASAGRAN+COC	2AS 4S	POST	0.25 0.5+1PT	70	75	94	90	92	17

SOYBEAN PREEMERGENCE/POSTEMERGENCE BROADLEAF STUDY

URBANA C-500

P.2

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/26)					% INJ.
				GIFT	VELE	JIWE	SMPW	COLQ	
UNTREATED CHECK				0	0	0	0	0	0
SC-0098	1.7EC	POST	0.016	55	83	72	85	87	3
SC-0098	1.7EC	POST	0.032	85	95	77	94	93	13
SC-0098	1.7EC	POST	0.125	81	97	88	97	97	22
SC-0098+COC	1.7EC	POST	0.008+0.25PT	65	89	41	90	83	7
SC-0098+COC	1.7EC	POST	0.016+0.25PT	78	91	51	93	90	12
SC-0098+COC	1.7EC	POST	0.032+0.25PT	83	95	51	93	93	13
SC-0098+COC	1.7EC	POST	0.004+0.25PT	62	54	25	73	72	0
AMIBEN+COC	75DS	POST	2.7+1QT	81	29	62	77	70	13
AMIBEN+ CLASSIC+X-77	75DS 25DF	POST	2.7 0.125OZ +0.25%	81	54	88	93	67	10
AMIBEN+ CLASSIC+X-77	75DS 25DF	POST	2.25 0.125OZ +0.25%	79	45	83	88	40	10
AMIBEN+ BLAZER+COC	75DS 2L	POST	2.25 0.38+1QT	69	73	94	93	83	12
AMIBEN+ DYANAP	75DS 3L	POST	2.25 3.0	45	35	91	93	90	23
DYANAP+ COMMAND	3L 6EC	PRE	3.0 0.5	99	99	99	89	96	0
DYANAP	3L	POST	3.0	59	18	84	88	85	23
SCEPTER+ BLAZER+X-77	1.5L 2L	POST	0.125 0.25+0.25%	85	38	90	93	90	20
SCEPTER+ BASAGRAN+X77	1.5L 4S	POST	0.125 0.5+0.25%	73	82	94	94	94	7
SCEPTER+ 2,4-DB+X-77	1.5L 2L	POST	0.125 0.03+0.25%	73	30	85	90	75	5
SCEPTER+X-77	1.5L	POST	0.125+0.25%	66	25	83	89	77	0

SOYBEAN PREEMERGENCE/POSTEMERGENCE BROADLEAF STUDY

URBANA C-500 P.3.

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/26)					% INJ.
				GIFT	VELE	JIWE	SMPW	COLQ	
BASAGRAN+ BLAZER+COC	4S 2L	POST	0.75 0.25+1PT	60	55	84	92	78	12
BASAGRAN+ BLAZER+COC	4S 2L	POST	0.75 0.25+1PT	39	93	95	96	96	20
BASAGRAN+ SCEPTER+COC	4S 1.5L	POST	0.75 0.05+1QT	88	78	94	94	92	3
BASAGRAN+ SCEPTER+COC	4S 1.5L	POST	0.75 0.075+1QT	60	72	94	94	93	3
BASAGRAN+ CLASSIC+COC	4S 25DF	POST	0.75 0.1250Z+1QT	61	89	95	90	88	3
BASAGRAN+ BUCTRIL+COC	4S 2EC	POST	0.5 0.03+1QT	56	69	93	60	70	7
BASAGRAN+ BUCTRIL+COC	4S 2EC	POST	0.5 0.06+1QT	61	84	94	65	88	17
BASAGRAN+ BUCTRIL+28%N	4S 2EC	POST	0.5 0.06+1QT	63	88	94	84	90	13
BLAZER+AG-98	2L	POST	0.625+0.25%	78	77	95	95	93	25
BASAGRAN+COC	4S	POST	1.0+1QT	78	86	94	86	90	10
PURSUIT	1.92L	POST	0.1	86	71	93	93	87	3

WITH THE EXCEPTION OF THE TWO TREATMENTS HAVING POAST OR FUSILADE, THE ENTIRE TEST AREA RECEIVED A BROADCAST APPLICATION OF DUAL 8E AT 1.5 LBS AI/AC. THE PREEMERGENCE APPLICATION WAS MADE ON MAY 13, 1986, TO PREVENT HEAVY GRASS PRESSURE THAT WAS ANTICIPATED.

Exp. Title: SOYBEAN PREEMERGENCE/POSTEMERGENCE GRASS STUDY  
 Researcher(s): LIEBL, WAX, ORFANEDES Location: URBANA Field: C-500  
 Design: RCB Reps: 3 Trts: 40 Plot size: 10 ft X 40 ft

Soil Type(s): FLANAGAN SILT LOAM/CATLIN SILT LOAM  
 Drainage: G (E-G-F-P) % O.M.: 4 pH: 6.1 % Slope: 0-2  
 P test #/A: 50 K test #/A: 340

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: WELLS II Previous Crop: CORN  
 Planting Date: 05/09/86 Rate: 60#/A Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: C Spring: F, F, O-SEEDBED FINISHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PRE	POST	POST 24H	LPO
Date mm/dd/yy		05/14/86	06/09/86	06/10/86	06/12/86
Time (24 hr clk)		14 to 15	13 to 15	16 to 17	15 to 15
Crop stage lf/in		0/0	3/6	4/6	5/7
Soil Temp F		68	70	70	70
Soil Moist W-A-D		D	W	A	A
Air Temp F		83	75	78	68
% R.H.		65	80	55	50
Wind spd/dir		12/S	10/SW	12/SW	15/NW
% overcast		35	90	10	90
% residue		30	20	20	20
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O	H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		18	18	18	18
Spray system **		HH	HH	HH	HH
Band width in.		--	--	--	--
Nozzle type		FF 8003	FF 8003	FF 8003	FF 8002
Nozzle ht. in		20	20	20	20
Pressure lbs.		26	30	30	42
Speed mph		3	3	3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	POST	POST 24H	LPO
Species	GIFT	GIFT	GIFT
Stage: lf/in	5/6	7/8	7/8
Density: #/sq ft	12	12	12
Species	JIWE	JIWE	JIWE
Stage: lf/in	6/4	6/4	8/6
Density: #/sq ft	2	2	2
Species	VELE	VELE	VELE
Stage: lf/in	6/4	6/4	6/5
Density: #/sq ft	4	4	4
Species	SMPW	SMPW	SMPW
Stage: lf/in	5/4	5/4	6/5
Density: #/sq ft	3	3	3

Notes: LIGHT RAIN SHOWER OCCURRED FORTY-FIVE MINUTES AFTER POST APPLICATION.

## SOYBEAN PREEMERGENCE/POSTEMERGENCE GRASS STUDY

URBANA C-500 P.1

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/25)				(6/25) %
				GIFT	VELE	JIWE	SMPW	INJURY
SAN-582+ METRIBUZIN	8E 75DF	PRE	1.5 0.4	87	77	93	98	0
SAN-582+ SCEPTER	8E 1.5L	PRE	1.5 0.125	82	58	93	98	0
SAN-582	8E	PRE	1.5	84	32	82	99	0
SAN-582	8E	PRE	3.0	97	17	93	99	0
LASSO	4MT	PRE	3.0	86	17	37	96	0
HARNESS	8MT	PRE	2.5	81	19	80	96	0
CGA-24704	3EC	PRE	2.5	93	02	70	95	0
DUAL	8E	PRE	2.5	84	09	25	59	0
CINCH	7EC	PRE	1.3	85	69	0	13	0
BAS-517+COC	1.67L	POST	0.075+1QT	92	86	92	97	0
BAS-517+COC	1.67L	POST	0.1+1QT	93	84	87	94	0
BAS-517+COC	1.67L	POST	0.15+1QT	97	84	90	95	0
BAS-517+COC	1.67L	LPO	0.15+1QT	98	84	94	97	0
SELECT+COC	2EC	POST	0.06+1QT	87	74	89	96	0
SELECT+COC	2EC	POST	0.1+1QT	87	71	86	94	0
SELECT+COC	2EC	POST	0.125+1QT	90	76	88	95	0
VERDICT+COC	2EC	POST	0.12+1QT	95	78	78	96	0
ASSURE+X-77	0.8EC	POST	0.038+0.25%	93	81	86	95	0
ASSURE+X-77	0.8EC	POST	0.075+0.25%	99	88	89	89	0
ASSURE	0.8EC	POST	0.075	95	77	87	98	0
ASSURE+D	0.8EC	POST	0.019	90	83	89	97	0
ASSURE+D	0.8EC	POST	0.038	93	82	91	94	0
ASSURE+D+X-77	0.8EC	POST	0.05+0.25%	99	79	91	92	0

SOYBEAN PREEMERGENCE/POSTEMERGENCE GRASS STUDY

URBANA C-500 P.2

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/25)				(6/25) % INJURY
				GIFT	VELE	JIWE	SMPW	
POAST+COC	1.5L	POST	0.2+1QT	88	82	89	91	0
POAST+COC	1.5L	POST	0.15+1QT	89	84	89	89	0
FUSILADE+COC	1.0L	POST	0.156+1QT	89	76	48	92	0
FUSILADE+COC	1.0L	POST	0.188+1QT	88	83	92	96	0
WHIP+COC	1.0L	POST	0.1+1QT	97	83	91	92	0
WHIP+COC	1.0L	POST	0.15+1QT	99	89	86	94	0
DUAL	8E	PRE	2.5	17	84	87	93	0
DUAL+X-77	8E	POST	1.25+0.25%	12	80	88	93	0
DUAL+X-77	8E	POST	1.8+0.25%	12	84	82	90	0
DUAL+ FUSILADE+X-77	8E 1.0L	POST	1.0 0.1+0.25%	85	71	86	92	7
DUAL+ FUSILADE+X-77	8E 1.0L	POST	1.5 0.15+0.25%	87	90	95	97	0
CHECK				0	0	0	0	0
WHIP+ TACKLE+ BASAGRAN+COC	1.0L 2AS 4S	POST	0.2 0.38 0.5+1QT	97	99	100	100	20
WHIP+COC/ TACKLE+ BASAGRAN+COC	1.0L 2AS 4S	POST POST 24h	0.15+1QT 0.38 0.5+1QT	99	99	100	100	20
VERDICT+ TACKLE+ BASAGRAN+COC	2EC 2AS 4S	POST	0.12 0.38 0.5+1QT	92	98	100	100	17
VERDICT+COC/ TACKLE+ BASAGRAN+COC	2EC 2AS 4S	POST POST 24h	0.12+1QT 0.38 0.5+1QT	97	96	98	98	18
UNTREATED CHECK				0	0	0	0	0

Note: ALL POSTEMERGENCE TREATMENTS INCLUDED METRIBUZIN PREEMERGENCE AT 0.4 LBS AI/AC. THE APPLICATION WAS MADE ON MAY 14, 1986 TO CONTROL THE HEAVY BROADLEAF WEED PRESSURE THAT WAS ANTICIPATED.

Exp. Title: PURSUIT APPLICATION METHOD VS. RATE, ALONE AND COMBINED WITH GRASS  
HERBICIDES  
Researcher(s): J. CANTWELL and R. LIEBL Location: URBANA Field: C-500  
Design: RCB Reps: 3 Trts: 29 Plot size: 10 ft X 30 ft

Soil Type(s): FLANAGAN SILT LOAM/DRUMMER SILTY CLAY LOAM  
Drainage: F-G (E-G-F-P) % O.M.: 4 pH: 6.1 % Slope: 0-2  
P test #/A: 50 K test #/A: 340

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: WELLS II Previous Crop: SOYBEANS  
Planting Date: 05-06-86 Rate: 60#/A Depth: 1.5 inches  
Row Spacing: 30 inches

Till\* Fall: NONE Spring: F, F, O-SEEDBED FINISHER  
Incorp Method: O-O-SEEDBED FINISHER Incorp Time: hrs; Depth: 2-4in

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PPI	PRE	POST
Date mm/dd/yy		05/05/86	05/06/86	06/03/86
Time (24 hr clk)		16 to 17	09 to 10	06 to 07
Crop stage lf/in		0/0	0/0	3/6"
Soil Temp F		--	--	--
Soil Moist W-A-D		--	--	--
Air Temp F		70	70	75
% R.H.		--	--	--
Wind spd/dir		--	--	5-8/NNE
% overcast		--	--	--
% residue		--	--	--
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		16	16	15
Spray system **		HH	HH	HH
Band width in.		--	--	--
Nozzle type		FF 8002	FF 8002	FF 8003
Nozzle ht. in		20	20	20
Pressure lbs.		30	30	40
Speed mph		4	4	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	POST
Species	GIFT
Stage: lf/in	--/4-6
Density: #/sq ft	40
Species	JIWE
Stage: lf/in	--/2-4
Density: #/sq ft	40
Species	COLQ
Stage: lf/in	--/2-4
Density: #/sq ft	4
Species	VELE
Stage: lf/in	--/2-4
Density: #/sq ft	<1
Species	<sup>5 m p v</sup> <u>PWSP</u>
Stage: lf/in	--/2-4
Density: #/sq ft	40

PURSUIT APPLICATION METHOD VS. RATE, ALONE AND COMBINED WITH GRASS HERBICIDES  
URBANA C-500 P.1

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (JUNE 28)				
				GIFT	COLQ	SMPW	JIWE	VELE
PURSUIT	1.92L	PPI	0.125	95	100	100	78	100
PURSUIT	1.92L	PPI	0.09375	94	100	100	53	100
PURSUIT	1.92L	PPI	0.0625	80	100	100	53	98
PURSUIT	1.92L	PPI	0.0469	68	100	100	46	100
LASSO	4MT	PPI	2.0	97	93	81	61	98
LASSO+ PURSUIT	4MT 1.92L	PPI	2.0 0.125	99	100	100	93	100
LASSO+ PURSUIT	4MT 1.92L	PPI	2.0 0.09375	100	100	100	91	98
LASSO+ PURSUIT	4MT 1.92L	PPI	2.0 0.0625	96	100	100	78	100
LASSO+ PURSUIT	4MT 1.92L	PPI	2.0 0.0469	96	100	100	50	100
PURSUIT	1.92L	PRE	0.125	45	58	98	75	100
PURSUIT	1.92L	PRE	0.09375	25	50	85	75	100
PURSUIT	1.92L	PRE	0.0625	21	21	87	73	100
PURSUIT	1.92L	PRE	0.0469	21	40	83	54	100
LASSO	4MT	PRE	2.0	61	21	96	88	85
LASSO+ PURSUIT	4MT 1.92L	PRE	2.0 0.125	59	49	100	100	93
LASSO+ PURSUIT	4MT 1.92L	PRE	2.0 0.0937	44	74	88	100	85
LASSO+ PURSUIT	4MT 1.92L	PRE	2.0 0.0625	61	68	100	93	93
LASSO+ PURSUIT	4MT 1.92L	PRE	2.0 0.0469	65	45	100	88	90
HANDWEEDED CHECK				100	100	100	100	100

PURSUIT APPLICATION METHOD VS. RATE, ALONE AND COMBINED WITH GRASS HERBICIDES  
 URBANA C-500 P.2

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (JUNE 30)				
				GIFT	COLQ	SMPW	JIWE	VELE
PURSUIT	1.92L	POST	0.125	95	78	100	99	100
PURSUIT	1.92L	POST	0.09375	93	55	100	100	98
PURSUIT	1.92L	POST	0.0625	78	65	100	100	90
PURSUIT	1.92L	POST	0.0469	55	32	100	100	83
POAST	1.5L	POST	0.20	100	0	0	0	0
POAST+ PURSUIT	1.5L 1.92L	POST	0.20 0.125	99	56	100	100	96
POAST+ PURSUIT	1.5L 1.92L	POST	0.20 0.09375	91	50	100	100	100
POAST+ PURSUIT	1.5L 1.92L	POST	0.20 0.0625	78	39	100	100	93
POAST+ PURSUIT	1.5L 1.92L	POST	0.20 0.0469	73	65	100	100	89
UNTREATED CHECK				0	0	0	0	0

Note: ALL POSTEMERGENCE TREATMENTS INCLUDED 1 QT/AC COC.

Exp. Title: POSTEMERGENCE APPLIED PURSUIT WITH BASAGRAN AND BLAZER  
 Researcher(s): J. CANTWELL and R. LIEBL Location: URBANA Field: C-500  
 Design: RCB Reps: 3 Trts: 31 Plot size: 10 ft X 30 ft

Soil Type(s): FLANAGAN SILT LOAM/DRUMMER SILTY CLAY LOAM  
 Drainage: F-G (E-G-F-P) % O.M.: 4 pH: 6.1 % Slope: 0-2  
 P test #/A: 50 K test #/A: 340

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: WELLS II Previous Crop: SOYBEANS  
 Planting Date: 05-06-86 Rate: 60#/A Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: F, F, 0-SEEDBED FINISHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	POST
	Date mm/dd/yy	06/03/86
	Time (24 hr clk)	06 to 08
	Crop stage lf/in	3/6"
	Soil Temp F	--
	Soil Moist W-A-D	--
	Air Temp F	75
	% R.H.	--
	Wind spd/dir	5-8/NNE
	% overcast	--
	% residue	--
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	16
	Spray system **	HH
	Band width in.	--
	Nozzle type	FF 8002
	Nozzle ht. in	20
	Pressure lbs.	40
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	POST
Species	GIFT
Stage: lf/in	--/4-6
Density: #/sq ft	40
Species	JIWE
Stage: lf/in	--/2-4
Density: #/sq ft	40
Species	COLQ
Stage: lf/in	--/2-4
Density: #/sq ft	4
Species	VELE
Stage: lf/in	--/2-4
Density: #/sq ft	<1
Species	SMPW
Stage: lf/in	--/2-4
Density: #/sq ft	40

POSTEMERGENCE APPLIED PURSUIT WITH BASAGRAN AND BLAZER

URBANA C-500 P.1

TREATMENT	FORM.	RATE LB AI/AC	% WEED CONTROL (06/30)				
			GIFT	COLQ	SMPW	JIWE	VELE
PURSUIT	1.92L	0.125	91	91	100	100	99
PURSUIT	1.92L	0.09375	88	93	100	99	98
PURSUIT	1.92L	0.0625	75	90	98	100	85
PURSUIT	1.92L	0.0469	76	85	98	99	88
BASAGRAN	4S	0.75	0	100	20	100	100
BASAGRAN	4S	0.50	0	100	18	100	99
BASAGRAN	4S	0.25	0	98	10	94	99
BLAZER	2L	0.375	34	93	31	95	95
BLAZER	2L	0.25	25	95	25	96	95
BLAZER	2L	0.125	34	88	21	99	90
UNTREATED CHECK			0	0	0	0	0
HANDWEEDED CHECK			100	100	100	100	100
BASAGRAN+ PURSUIT	4S 1.92L	0.75 0.125	88	98	98	96	94
BASAGRAN+ PURSUIT	4S 1.92L	0.75 0.09375	79	98	94	96	95
BASAGRAN+ PURSUIT	4S 1.92L	0.75 0.0625	60	95	83	95	93
BASAGRAN+ PURSUIT	4S 1.92L	0.75 0.0469	55	93	90	94	91
BASAGRAN+ PURSUIT	4S 1.92L	0.50 0.125	90	83	98	94	95
BASAGRAN+ PURSUIT	4S 1.92L	0.50 0.09375	79	84	94	98	91
BASAGRAN+ PURSUIT	4S 1.92L	0.50 0.0625	79	94	85	89	90

POSTEMERGENCE APPLIED PURSUIT WITH BASAGRAN AND BLAZER

URBANA C-500 P.2

TREATMENT	FORM.	RATE LB AI/AC	% WEED CONTROL (06/30)				
			GIFT	COLQ	SMPW	JIWE	VELE
BASAGRAN+ PURSUIT	4S 1.92L	0.50 0.0469	68	84	80	90	86
BASAGRAN+ PURSUIT	4S 1.92L	0.25 0.125	91	83	99	90	84
BASAGRAN+ PURSUIT	4S 1.92L	0.25 0.0625	71	65	79	75	85
BLAZER+ PURSUIT	2L 1.92L	0.375 0.125	70	78	98	94	90
BLAZER+ PURSUIT	2L 1.92L	0.375 0.0625	51	88	90	94	90
BLAZER+ PURSUIT	2L 1.92L	0.25 0.125	83	81	98	95	96
BLAZER+ PURSUIT	2L 1.92L	0.25 0.0625	61	81	89	89	78
BLAZER+ PURSUIT	2L 1.92L	0.25 0.0469	46	91	44	93	93
BLAZER+ PURSUIT	2L 1.92L	0.125 0.125	85	86	96	96	88
BLAZER+ PURSUIT	2L 1.92L	0.125 0.09375	75	80	94	90	86
BLAZER+ PURSUIT	2L 1.92L	0.125 0.0625	70	73	95	98	95
BLAZER+ PURSUIT	2L 1.92L	0.125 0.0469	46	65	80	88	90

Note: ALL TREATMENTS INCLUDED 1 QT/AC COC.

Exp. Title: ADDITIVES TO CLASSIC  
 Researcher(s): R. FIELDING and E. STOLLER Location: URBANA Field: ANS-300  
 Design: RCB Reps: 4 Trts: 12 Plot size: 10 ft X 21 ft

Soil Type(s): DRUMMER SILTY CLAY LOAM  
 Drainage: P-F (E-G-F-P) % O.M.: 5 pH: 6.0 % Slope: 0-2  
 P test #/A: 87 K test #/A: 365

Fert # applied/A: N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: WILLIAMS 82 Previous Crop: SOYBEANS  
 Planting Date: 05/12/86 Rate: 60#/A Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: F, F, O-SEEDBED FINISHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	LPO
	Date mm/dd/yy	06/12/86
	Time (24 hr clk)	07 to 11
	Crop stage lf/in	5/10
	Soil Temp F	--
	Soil Moist W-A-D	A
	Air Temp F	75
	% R.H.	90
	Wind spd/dir	10/W
	% overcast	100
	% residue	--
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	18
	Spray system **	HH
	Band width in.	--
	Nozzle type	FF 8002
	Nozzle ht. in	19
	Pressure lbs.	40
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	LPO
Species	VELE
Stage: lf/in	2/6/1-11
Density: #/sq ft	0.7
Species	ILMG
Stage: lf/in	4-10/9
Density: #/sq ft	1
Species	JIWE
Stage: lf/in	2-6/2-4
Density: #/sq ft	0.4
Species	COLQ
Stage: lf/in	4/1-2
Density: #/sq ft	0.5

ADDITIVES TO CLASSIC

URBANA ANS-300

TREATMENT	FORM.	RATE AI/AC	% WEED CONTROL (7/3)				(7/3) % INJURY
			VELE	ILMG	JIWE	COLQ	
CLASSIC	25DG	1/8 OZ	74	71	95	3	0
CLASSIC	25DG	3/16 OZ	73	68	94	5	0
CLASSIC+ X-77	25DG	1/8 OZ 0.25% v/v	85	71	95	3	1
CLASSIC+ X-77	25DG	3/16 OZ 0.25% v/v	90	81	98	9	6
CLASSIC+ 28% N	25DG	1/8 OZ 1 GAL	83	73	97	6	0
CLASSIC+ 28% N	25DG	3/16 OZ 1 GAL	93	78	98	10	0
CLASSIC+ X-77+ 28% N	25DG	1/8 OZ 0.25% v/v 1 GAL	91	83	98	10	6
CLASSIC+ X-77+ 28% N	25DG	3/16 OZ 0.25% v/v 1 GAL	97	84	99	11	8
BASAGRAN+ COC	4S	1 LB 1 QT	98	73	97	89	3
BASAGRAN+ 28% N	4S	1 LB 1 GAL	97	69	98	88	0
WEEDY CHECK			0	0	0	0	0
WEED FREE CHECK			100	100	100	100	0

Note: THE ENTIRE EXPERIMENTAL AREA RECEIVED A BROADCAST POSTEMERGENCE APPLICATION OF POAST ON JUNE 3, 1986 TO CONTROL EMERGED GRASSES.

Exp. Title: ADDITIVES TO DPX-M6316, CLASSIC, AND DPX-M6316 + CLASSIC TANK  
MIXES (WITH SURFACTANT)  
Researcher(s): R. FIELDING and E. STOLLER Location: URBANA Field: ANS-300  
Design: RCB Reps: 4 Trts: 12 Plot size: 10 ft X 21 ft

Soil Type: DRUMMER SILTY CLAY LOAM  
Drainage: P-F (E-G-F-P) % O.M.: 5 pH: 6.0 % Slope: 0-2  
P test #/A: 87 K test #/A: 365

Fert # applied/A: N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: WILLIAMS 82 Previous Crop: SOYBEANS  
Planting Date: 05/12/86 Rate: 60#/A Depth: 1.5 inches  
Row Spacing: 30 inches

Till\* Fall: NONE Spring: F, F, O-SEEDBED FINISHER  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	POST
	Date mm/dd/yy	6/12/86
	Time (24 hr clk)	7 to 11
	Crop stage lf/in	3 1 10 i
	Soil Temp F	--
	Soil Moist W-A-D	A
	Air Temp F	75
	% R.H.	90
	Wind spd/dir	10 s W
	% overcast	100
	% residue	--
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	18
	Spray system **	HH
	Band width in.	--
	Nozzle type	FF 8002
	Nozzle ht. in	19
	Pressure lbs.	40
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	POST
Species	VELE
Stage: lf/in	2-6/1-11
Density: #/sq ft	0.3
Species	ILMG
Stage: lf/in	4-10/9
Density: #/sq ft	0.8
Species	JIME
Stage: lf/in	2-6/2-4
Density: #/sq ft	0.5
Species	COLQ
Stage: lf/in	4/1-2
Density: #/sq ft	0.6

ADDITIVES TO DPX-M6316, CLASSIC, AND DPX-M6316 + CLASSIC TANK MIXES (WITH SURFACTANT)  
URBANA ANS-300

TREATMENT	FORM.	RATE AI/AC	% WEED CONTROL (7/3)				(7/3) % INJURY
			VELE	ILMG	JIWE	COLQ	
DPX-M6316+ X-77	75DF	1/16 OZ 0.25% v/v	86	75	58	97	6
DPX-M6316+ X-77	75DF	1/12 OZ 0.25% v/v	88	74	69	97	13
DPX-M6316+ X-77+ 28% N	75DF	1/16 OZ 0.25% v/v 1 GAL	90	75	65	98	14
DPX-M6316+ X-77+ 28% N	75DF	1/12 OZ 0.25% v/v 1 GAL	91	80	63	97	15
DPX-M6316+ CLASSIC+ X-77	75DF 25DG	1/16 OZ 1/8 OZ 0.25% v/v	91	83	96	98	14
DPX-M6316+ CLASSIC+ X-77	75DF 25DG	1/12 OZ 1/8 OZ 0.25% v/v	96	85	96	98	19
DPX-M6316+ CLASSIC+ X-77+ 28% N	75DF 25DG	1/16 OZ 1/8 OZ 0.25% v/v 1 GAL	96	90	96	98	31
DPX-M6316+ CLASSIC+ X-77+ 28% N	75DF 25DG	1/12 OZ 1/8 OZ 0.25% v/v 1 GAL	97	90	98	98	29
CLASSIC+ X-77	25DG	1/8 OZ 0.25% v/v	82	74	96	3	1
CLASSIC+ X-77+ 28% N	25DG	1/8 OZ 0.25% v/v 1 GAL	84	78	98	5	6
DPX-M6316+ CLASSIC+ X-77+ 28% N	75DF 25DG	1/12 OZ 3/16 OZ 0.25% v/v 1 GAL	98	93	98	98	35
WEEDY CHECK			0	0	0	0	0

Note: THE ENTIRE EXPERIMENTAL AREA RECEIVED A BROADCAST POSTEMERGENCE APPLICATION OF POAST ON JUNE 3 TO CONTROL EMERGED GRASSES.

Exp. Title: ADDITIVES TO DPX-M6316, CLASSIC, AND DPX-M6316 + CLASSIC TANK  
 MIXES (WITHOUT SURFACTANT)  
 Researcher(s): R. FIELDING and E. STOLLER Location: URBANA Field: ANS-300  
 Design: RCB Reps: 4 Trts: 12 Plot size: 10 ft X 21 ft

Soil Type(s): DRUMMER SILTY CLAY LOAM  
 Drainage: P-F (E-G-F-P) % O.M.: 5 pH: 6.0 % Slope: 0-2  
 P test #/A: 87 K test #/A: 365

Fert # applied/A: N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: WILLIAMS 82 Previous Crop: SOYBEANS  
 Planting Date: 05/12/86 Rate: 60#/A Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: F, F, 0-SEEDBED FINISHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: 1.5 inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	POST
	Date mm/dd/yy	6/12/86
	Time (24 hr clk)	7 to 12
	Crop stage lf/in	3/10
	Soil Temp F	--
	Soil Moist W-A-D	A
	Air Temp F	75
	% R.H.	90
	Wind spd/dir	10/W
	% overcast	100
	% residue	
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	18
	Spray system **	HH
	Band width in.	--
	Nozzle type	FF 8002
	Nozzle ht. in	19
	Pressure lbs.	40
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	POST
Species	VELE
Stage: lf/in	2-6/1-11
Density: #/sq ft	0.4
Species	TLMG
Stage: lf/in	4-10/9
Density: #/sq ft	0.7
Species	JIWE
Stage: lf/in	2-4/2-4
Density: #/sq ft	0.6
Species	COLQ
Stage: lf/in	4/1-2
Density: #/sq ft	2.1

ADDITIVES TO DPX-M6316, CLASSIC, AND DPX-M6316 + CLASSIC TANK MIXES (WITHOUT SURFACTANT)  
URBANA ANS-300

TREATMENT	FORM.	RATE AI/AC	% WEED CONTROL (7/3)				(7/3) %
			VELE	ILMG	JIWE	COLQ	INJURY
DPX-M6316	75DF	1/4 OZ	84	73	56	70	5
DPX-M6316	75DF	1/2 OZ	90	80	61	71	14
DPX-M6316+ 28% N	75DF	1/4 OZ 1 GAL	90	85	66	74	15
DPX-M6316+ 28% N	75DF	1/2 OZ 1 GAL	93	88	79	75	28
DPX-M6316+ CLASSIC	75DF 25DG	1/4 OZ 1/8 OZ	95	83	93	73	4
DPX-M6316+ CLASSIC	75DF 25DG	1/2 OZ 1/8 OZ	95	86	95	79	10
DPX-M6316+ CLASSIC+ 28% N	75DF 25DG	1/4 OZ 1/8 OZ 1 GAL	95	89	98	75	15
DPX-M6316+ CLASSIC+ 28% N	75DF 25DG	1/2 OZ 1/8 OZ 1 GAL	97	93	98	80	35
CLASSIC	25DG	1/8 OZ	71	73	93	0	0
CLASSIC+ 28% N	25DG	1/8 OZ 1 GAL	85	71	95	3	1
DPX-M6316+ CLASSIC+ 28% N	75DF 25DG	1/2 OZ 3/16 OZ 1 GAL	96	92	98	80	38
WEEDY CHECK			0	0	0	0	0

Note: THE ENTIRE EXPERIMENTAL AREA RECEIVED A BROADCAST POSTEMERGENCE APPLICATION OF POAST ON JUNE 3 TO CONTROL EMERGED GRASSES.

Exp. Title: LATE APPLICATION OF DPX-M6316, CLASSIC, AND DPX-M6316 + CLASSIC  
TANK MIXES (WITH ADDITIVES)  
Researchers: R. FIELDING and E STOLLER Location: URBANA Field: C-500  
Design: RCB Reps: 3 Trts: 17 Plot size: 10 ft X 22 ft

Soil Type(s): FLANAGAN SILT LOAM/CATLIN SILT LOAM  
Drainage: F-G (E-G-F-P) % O.M.: 4 pH: 6.1 % Slope: 0-2  
P test #/A: 50 K test #/A: 340

Fert # applied/A: N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: WELLS II Previous Crop: CORN  
Planting Date: 05/09/86 Rate: 60#/A Depth: 1.5 inches  
Row Spacing: 30 inches

Till\* Fall: C Spring: F, F, O-SEEDBED FINISHER  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing \* LPO  
Date mm/dd/yy 07/07/86  
Time (24 hr clk) 19 to 21  
Crop stage lf/in 5/18  
Soil Temp F --  
Soil Moist W-A-D A  
Air Temp F 75  
% R.H. --  
Wind spd/dir 3/S  
% overcast 0  
% residue --  
Carrier type H<sub>2</sub>O  
Carrier rate gpa 18  
Spray system \*\* HH  
Band width in. --  
Nozzle type FF 8002  
Nozzle ht. in 19  
Pressure lbs. 40  
Speed mph 3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: LPO  
Species VELE  
Stage: lf/in 8-10/18  
Density: #/sq ft 0.4  
Species RRPW  
Stage: lf/in 20+/18  
Density: #/sq ft 4.3

LATE APPLICATION OF DPX-M6316, CLASSIC, AND DPX-M6316 + CLASSIC TANK MIXES (WITH ADDITIVES)  
URBANA C-500

TREATMENT	FORM.	RATE AI/AC	% WEED CONTROL (7/28)		% (7/28) INJURY
			RRPW	VELE	
DPX-M6316+ X-77	75DF	1/32 OZ 0.25% v/v	87	45	0
DPX-M6316+ X-77	75DF	1/16 OZ 0.25% v/v	90	57	5
DPX-M6316+ X-77+ 28% N	75DF	1/32 OZ 0.25% v/v 1 GAL	78	40	0
DPX-M6316+ X-77+ 28% N	75DF	1/16 OZ 0.25% v/v 1 GAL	90	50	5
DPX-M6316+ CLASSIC+ X-77	75DF 25DG	1/32 OZ 1/16 OZ 0.25% v/v	83	40	2
DPX-M6316+ CLASSIC+ X-77	75DF 25DG	1/16 OZ 1/16 OZ 0.25% v/v	90	50	5
DPX-M6316+ CLASSIC+ X-77	75DF 25DG	1/32 OZ 1/8 OZ 0.25% v/v	88	43	2
DPX-M6316+ CLASSIC+ X-77	75DF 25DG	1/16 OZ 1/8 OZ 0.25% v/v	92	52	7
DPX-M6316+ CLASSIC+ X-77+ 28% N	75DF 25DG	1/32 OZ 1/16 OZ 0.25% v/v 1 GAL	88	55	2
DPX-M6316+ CLASSIC+ X-77+ 28% N	75DF 25DG	1/16 OZ 1/16 OZ 0.25% v/v 1 GAL	88	57	7
DPX-M6316+ CLASSIC+ X-77+ 28% N	75DF 25DG	1/32 OZ 1/8 OZ 0.25% v/v 1 GAL	88	48	3

LATE APPLICATION OF DPX-M6316, CLASSIC, AND DPX-M6316 + CLASSIC TANK MIXES (WITH ADDITIVES)  
URBANA C-500

TREATMENT	FORM.	RATE AI/AC	% WEED CONTROL (7/28)		% (7/28) INJURY
			RRPW	VELE	
DPX-M6316+	75DF	1/16 OZ	91	57	5
CLASSIC+	25DG	1/8 OZ			
X-77+		0.25% v/v			
28% N		1 GAL			
CLASSIC+	25DG	1/16 OZ	71	30	0
X-77		0.25% v/v			
CLASSIC+	25DG	1/8 OZ	80	38	2
X-77		0.25% v/v			
CLASSIC+	25DG	1/16 OZ	70	31	0
X-77+		0.25% v/v			
28% N		1 GAL			
CLASSIC+	25DG	1/8 OZ	83	40	2
X-77+		0.25% v/v			
28% N		1 GAL			
WEEDY CHECK			0	0	0

Note: THE ENTIRE EXPERIMENTAL AREA RECEIVED A BROADCAST POSTEMERGENCE APPLICATION OF POAST ON JULY 1 TO CONTROL EMERGED GRASSES.

Exp. Title: BLAZER AND BASAGRAN SOLO ADDITIVE STUDY  
 Researcher: FRITZ KOPPATSCHKE Location: URBANA Field: AS-300  
 Design: FACTORIAL Reps: 3 Trts: 20 Plot size: 30 ft X 10 ft

Soil Type(s): DRUMMER SILTY CLAY LOAM  
 Drainage: P-F (E-G-F-P) % O.M.: 5 pH: 6.0 % Slope: 0-2  
 P test #/A: 87 K test #/A: 365

Fert # applied/A N: 0 P: 0 K:0

Crop Current Crop: SOYBEANS Cultivar: WILLIAMS 82 Previous Crop: SOYBEANS  
 Planting Date: 05/12/86 Rate: 60#/A Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: F, F, O-SEEDBED FINISHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	POST
	Date mm/dd/yy	6/12/86
	Time (24 hr clk)	5 to 7
	Crop stage lf/in	2/4
	Soil Temp F	72
	Soil Moist W-A-D	A
	Air Temp F	58
	% R.H.	75
	Wind spd/dir	13/SW
	% overcast	100
	% residue	10
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	17
	Spray system **	HH
	Band width in.	--
	Nozzle type	FF 8002
	Nozzle ht. in	20
	Pressure lbs.	40
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: POST

Species: VELE

Stage: 1f/in 4/2

Density: #/sq ft 2

Species: JIWE

Stage: 1f/in 4/2

Density: #/sq ft 2

Species: COCB

Stage: 1f/in 4/2

Density: #/sq ft 1

Species: RRPW

Stage: 1f/in 4/2

Density: #/sq ft 1

BLAZER AND BASAGRAN SOLO ADDITIVE STUDY

URBANA ANS. 300 P.1

TREATMENT	FORM.	RATE LB AI/AC	% WEED CONTROL (6/19)		(6/19) %
			VELE	JIWE	INJURY
BLAZER+ 10-34-0	2L	0.38 2PT	86	95	5
BLAZER+ 10-34-0	2L	0.38 8 PT	93	95	7
BLAZER+ 28% N	2L	0.38 4 PT	93	95	4
BLAZER+ 28% N	2L	0.38 8 PT	92	95	8
BLAZER+ AMMONIUM SULF.	2L	0.38 2 LB	92	94	7
BLAZER+ AMMONIUM SULF.	2L	0.38 6 LB	92	94	7
BLAZER+ COC	2L	0.38 1 PT	87	94	7
BLAZER	2L	0.38	87	94	5
BLAZER+ COC	2L	0.50 1 PT	92	95	7
BASAGRAN+ 10-34-0	4S	0.50 2 PT	93	95	2
BASAGRAN+ 10-34-0	4S	0.50 8 PT	93	95	2
BASAGRAN+ 28% N	4S	0.50 4 PT	94	93	4
BASAGRAN+ 28% N	4S	0.50 8 PT	94	94	4
BASAGRAN+ AMMONIUM SULF.	4S	0.50 2 LB	91	95	3
BASAGRAN+ AMMONIUM SULF.	4S	0.50 6 LB	90	95	2

BLAZER AND BASAGRAN SOLO ADDITIVE STUDY

URBANA ANS-300 P.2

TREATMENT	FORM.	RATE LB AI/AC	% WEED CONTROL (6/19)		(6/19) % INJURY
			VELE	JIWE	
BASAGRAN+ COC	4S	0.50 1 QT	90	93	5
BASAGRAN+	4S	0.50	92	95	2
BASAGRAN+ COC	4S	1.0 1 QT	90	94	3
WEEDY CHECK			0	0	0
HAND WEEDED CHECK			100	100	0

Exp. Title: BLAZER AND BASAGRAN COMBINATION ADDITIVE STUDY  
 Researcher(s): FRITZ KOPPATSCHKEK Location: URBANA Field: ANS-300  
 Design: RCB Reps: 3 Trts: 20 Plot size: 10 ft X 30 ft

Soil Type: DRUMMER SILTY CLAY LOAM  
 Drainage: P-F (E-G-F-P) % O.M.: 5 pH:6.0 % Slope: 0-2  
 P test #/A: 87 K test #/A: 365

Fert # applied/A: N: 0 P: 0 K : 0

Crop Current Crop: SOYBEANS Cultivar: WILLIAMS 82 Previous Crop: SOYBEANS  
 Planting Date: 05/12/86 Rate: 60#/A Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: F, F, O-SEEDBED FINISHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing \* POST  
 Date mm/dd/yy 06/12/86  
 Time (24 hr clk) 05 to 07  
 Crop stage lf/in 2/4  
 Soil Temp F 72  
 Soil Moist W-A-D A  
 Air Temp F 58  
 % R.H. 75  
 Wind spd/dir 10-15/SW  
 % overcast 100  
 % residue 0  
 Carrier type H<sub>2</sub>O  
 Carrier rate gpa 17  
 Spray system \*\* HH  
 Band width in. --  
 Nozzle type FF 8002  
 Nozzle ht. in 20  
 Pressure lbs. 40  
 Speed mph 3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

# Species Present at Application:

Appl. Timing: POST  
 Species VELE  
 Stage: lf/in 4/2  
 Density: #/sq ft 2  
 Species JIWE  
 Stage: lf/in 4/2  
 Density: #/sq ft 2

BLAZER AND BASAGRAN COMBINATION ADDITIVE STUDY

URBANA ANS. 300 P.1

TREATMENT	FORM.	RATE LB AI/AC	% WEED CONTROL (6/19)		(6/19) % INJURY
			VELE	JIWE	
BLAZER+	2L	0.12	84	93	5
BASAGRAN	4S	0.25			
BLAZER+	2L	0.12	86	93	5
BASAGRAN+	4S	0.25			
COC		1 PT			
BLAZER+	2L	0.12	89	95	6
BASAGRAN+	4S	0.25			
10-34-0		2 PT			
BLAZER+	2L	0.12	88	94	5
BASAGRAN+	4S	0.25			
28% N		4 PT			
BLAZER+	2L	0.12	89	94	5
BASAGRAN+	4S	0.25			
AMMONIUM SULF.		2 LB			
BLAZER+	2L	0.25	89	95	6
BASAGRAN	4S	0.50			
BLAZER+	2L	0.25	89	95	7
BASAGRAN+	4S	0.50			
COC		1 PT			
BLAZER+	2L	0.25	95	95	6
BASAGRAN+	4S	0.50			
10-34-0		2 PT			
BLAZER+	2L	0.25	93	96	6
BASAGRAN+	4S	0.50			
28% N		4 PT			
BLAZER+	2L	0.25	90	95	5
BASAGRAN+	4S	0.50			
AMMONIUM SULF.		2 LB			
BLAZER+	2L	0.38	95	95	7
BASAGRAN+	4S	0.50			
BLAZER+	2L	0.38	96	97	6
BASAGRAN+	4S	0.50			
COC		1 PT			

BLAZER AND BASAGRAN COMBINATION ADDITIVE STUDY

URBANA ANS. 300 P.2

TREATMENT	FORM.	RATE LB AI/AC	% WEED CONTROL (6/19)		(6/19) % INJURY
			VELE	JIWE	
BLAZER+	2L	0.38	95	96	5
BASAGRAN+	4S	0.50			
10-34-0		2 PT			
BLAZER+	2L	0.38	94	96	6
BASAGRAN+	4S	0.50			
28% N		4 PT			
BLAZER+	2L	0.38	93	95	7
BASAGRAN+	4S	0.50			
AMMONIUM SULF.		2 LB			
BLAZER+	2L	0.50	85	93	6
COC		1 PT			
BASAGRAN+	4S	1.0	94	93	5
COC		1 QT			
RESCUE+	2L	1.55	72	85	5
10-34-0		2 PT			
RESCUE+	2L	1.03	76	88	6
BLAZER+	2L	0.25			
10-34-0		2 PT			
WEEDY CHECK			0	0	0

Exp. Title: VERDICT AND BASAGRAN/BLAZER ADDITIVE/ANTAGONISM STUDY  
Researcher: T. BECKETT and E. STOLLER Location: URBANA Field: C-500  
Design: RCB Reps: 4 Trts: 5 Plot size: 10 ft X 25 ft

Soil Type(s): FLANAGAN SILT LOAM/CATLIN SILT LOAM/DRUMMER SILTY CLAY LOAM  
Drainage: F-G (E-G-F-P) % O.M.: 4 pH: 6.1 % Slope: 0-2  
P test #/A: 50 K test #/A: 340

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: WELLS II Previous Crop: CORN  
Planting Date: 05/12/86 Rate: 60#/A Depth: 1.5 inches  
Row Spacing: 30 inches

Till\* Fall: C Spring: F, F, O-SEEDBED FINISHER  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing *	POST
Date mm/dd/yy	6/13/86
Time (24 hr clk)	10 to 11
Crop stage lf/in	4/13
Soil Temp F	--
Soil Moist W-A-D	A
Air Temp F	75
% R.H.	80
Wind spd/dir	5/W
% overcast	10
% residue	--
Carrier type	H <sub>2</sub> O
Carrier rate gpa	18
Spray system **	HH
Band width in.	--
Nozzle type	8002
Nozzle ht. in	20
Pressure lbs.	40
Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

#### Species Present at Application:

Appl. Timing:	POST
Species	GIFT
Stage: lf/in	4/12
Density: #/sq ft	55

VERDICT AND BASAGRAN/BLAZER ADDITIVE/ANTAGONISM STUDY

URBANA C-500

TREATMENT	FORM.	APPL.	RATE LB AI/AC	PERCENT GIANT FOXTAIL CONTROL	
				6/25	7/8
VERDICT+	2L	POST	2 OZ	100	91
BASAGRAN+	4S		0.5		
BLAZER+	2L		0.25		
COC			0.5% v/v		
VERDICT+	2L	POST	2 OZ	100	85
BASAGRAN+	4S		0.5		
BLAZER+	2L		0.25		
10-34-0			1 QT		
VERDICT+	2L	POST	2 OZ	100	80
BASAGRAN+	4S		0.5		
BLAZER+	2L		0.25		
28-0-0			1 QT		
VERDICT+	2L	POST	2 OZ	100	88
BASAGRAN+	4S		0.5		
BLAZER+	2L		0.25		
X-77			0.25% v/v		
BASAGRAN+	4S	POST	0.5	0	0
BLAZER	2L		0.25		

Note: Crop injury was uniform across all the treated plots (approximately 10% crop injury).

The broadleaf weed infestation was very erratic, and thus control ratings could not be obtained.

Exp. Title: ASSURE AND POAST ADDITIVE STUDY  
Researcher: T. BECKETT and E. STOLLER Location: URBANA Field: ANS-200  
Design: F-RCB Reps: 4 Trts: 25 Plot size: 10 ft X 30 ft

Soil Type(s): BRENTON SILT LOAM/DRUMMER SILTY CLAY LOAM  
Drainage: F (E-G-F-P) % O.M.: 5 pH: 6.1 % Slope: 0-2  
P test #/A: 49 K test #/A: 380

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: HACK Previous Crop: CORN  
Planting Date: 05/08/86 Rate: 60#/A Depth: 1.5 inches  
Row Spacing: 30 inches

Till\* Fall: C Spring: F, F, O-SEEDBED FINISHER  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: --inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing *	POST
Date mm/dd/yy	6/10/86
Time (24 hr clk)	16 to 18
Crop stage lf/in	4/10
Soil Temp F	--
Soil Moist W-A-D	W
Air Temp F	80
% R.H.	90
Wind spd/dir	8/E
% overcast	90
% residue	--
Carrier type	H <sub>2</sub> O
Carrier rate gpa	17
Spray system **	HH
Band width in.	--
Nozzle type	FF 8002
Nozzle ht. in	20
Pressure lbs.	40
Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	POST
Species	GIFT
Stage: lf/in	6/11
Density: #/sq ft	65

Notes: VARIABILITY IN CONTROL RATINGS FROM ONE REPLICATION TO ANOTHER WAS  
OBSERVED. SUCH VARIATION MIGHT HAVE BEEN CAUSED BY MATERIAL SEPARATION  
DURING SPRAYING. HOWEVER, THE COMPONENTS WERE MIXED AND AGITATED  
PROPERLY.

ASSURE AND POAST ADDITIVE STUDY.

URBANA ANS-200 P.1

TREATMENT	FORM.	APPL.	RATE AI/AC	PERCENT GIANT FOXTAIL CONTROL		
				6/19	7/3	7/13
ASSURE	0.8EC	POST	0.4 OZ	100	74	95
ASSURE+ COC	0.8EC	POST	0.4 OZ 1 QT	100	95	98
ASSURE+ X-77	0.8EC	POST	0.4 OZ 0.25% v/v	100	98	99
ASSURE+ 28% N	0.8EC	POST	0.4 OZ 2 QT	85	85	84
ASSURE+ 10-34-0	0.8EC	POST	0.4 OZ 2 QT	100	66	84
ASSURE+ AMMONIUM SULF.	0.8EC	POST	0.4 OZ 2.5 LB	100	68	90
ASSURE+ COC+ 28% N	0.8EC	POST	0.4 OZ 1 QT 2 QT	100	98	97
ASSURE+ COC+ 10-34-0	0.8EC	POST	0.4 OZ 1 QT 2 QT	100	96	98
ASSURE+ COC+ AMMONIUM SULF.	0.8EC	POST	0.4 OZ 1 QT 2.5 LB	100	95	99
ASSURE+ X-77 28% N	0.8EC	POST	0.4 OZ 0.25% v/v 2 QT	100	96	99
ASSURE+ X-77+ 10-34-0	0.8EC	POST	0.4 OZ 0.25% v/v 2 QT	100	97	99
ASSURE+ X-77+ AMMONIUM SULF.	0.8EC	POST	0.4 OZ 0.25% v/v 2.5 LB	100	98	99
WEEDY CHECK				0	0	0
POAST	1.5L	POST	0.05 LB	63	5	6

ASSURE AND POAST ADDITIVE STUDY

URBANA ANS-200 P.2

TREATMENT	FORM.	APPL.	RATE AI/AC	PERCENT GIANT FOXTAIL CONTROL		
				6/19	7/3	7/13
POAST+ COC	1.5L	POST	0.05 LB 1 QT	100	19	30
POAST+ X-77	1.5L	POST	0.05 LB 0.25% v/v	55	5	5
POAST+ 28% N	1.5L	POST	0.05 LB 2 QT	76	12	35
POAST+ 10-34-0	1.5L	POST	0.05 LB 2 QT	74	8	21
POAST+ AMMONIUM SULF.	1.5L	POST	0.05 LB 2.5 LB	53	11	20
POAST+ COC+ 28% N	1.5L	POST	0.05 LB 1 QT 2 QT	98	30	44
POAST+ COC+ 10-34-0	1.5L	POST	0.05 LB 1 QT 2 QT	98	20	28
POAST+ COC+ AMMONIUM SULF.	1.5L	POST	0.05 LB 1 QT 2.5 LB	100	19	36
POAST+ X-77+ 28% N	1.5L	POST	0.05 LB 0.25% v/v 2 QT	90	25	29
POAST+ X-77+ 10-34-0	1.5L	POST	0.05 LB 0.25% v/v 2 QT	98	18	31
POAST+ X-77+ AMMONIUM SULF.	1.5L	POST	0.05 LB 0.25% v/v 2.5 LB	100	15	23

Notes: BASAGRAN (1 LB AI/AC) + BUTYRAC 200 (2 OZ PRODUCT/A) WERE APPLIED ON MAY 31, 1986 TO CONTROL BROADLEAF WEEDS.

NOTE THAT THE GRASS HERBICIDE RATES USED WERE APPROXIMATELY ONE-FOURTH THE LABELLED USE RATE.

NO CROP INJURY WAS OBSERVED WITH ANY GRASS HERBICIDE TREATMENT.

Exp. Title: ASSURE AND DPX-Y6202-31 STUDY  
 Researcher: T. BECKETT and E. STOLLER Location: URBANA Field: ANS-200  
 Design: RCB Reps: 4 Trts: 10 Plot size: 7.5 ft X 20 ft

Soil Type(s): BRENTON SILT LOAM/DRUMMER SILTY CLAY LOAM  
 Drainage: F (E-G-F-P) % O.M.: 5 pH: 6.1 % Slope: 0-2  
 P test #/A: 49 K test #/A: 380

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: HACK Previous Crop: CORN  
 Planting Date: 05/08/86 Rate: 60#/A Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: C Spring: F, F, SEEDBED FINISHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing \* POST  
 Date mm/dd/yy 06/13/86  
 Time (24 hr clk) 7 to 8  
 Crop stage lf/in 4/10  
 Soil Temp F --  
 Soil Moist W-A-D A  
 Air Temp F 70  
 % R.H. 80  
 Wind spd/dir 5/W  
 % overcast 10  
 % residue --  
 Carrier type H<sub>2</sub>O  
 Carrier rate gpa 18  
 Spray system \*\* HH  
 Band width in. --  
 Nozzle type FF 8002  
 Nozzle ht. in 20  
 Pressure lbs. 42  
 Speed mph 3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

#### Species Present at Application:

Appl. Timing: POST  
 Species GIFT  
 Stage: lf/in 6/12  
 Density: #/sq ft 60

ASSURE AND DPX-Y6202-31 STUDY

URBANA ANS-200 P.1

TREATMENT	FORM.	APPL.	RATE AI/AC	PERCENT GIANT FOXTAIL CONTROL		
				6/25	7/8	7/13
ASSURE+ X-77	0.8EC	POST	0.6 OZ 0.25% v/v	100	89	98
ASSURE+ X-77	0.8EC	POST	1.2 OZ 0.25% v/v	100	98	100
ASSURE+ X-77	0.8EC	POST	1.6 OZ 0.25% v/v	100	95	99
DPX-Y6202-31+ X-77	0.8EC	POST	0.3 OZ 0.25% v/v	100	89	99
DPX-Y6202-31+ X-77	0.8EC	POST	0.6 OZ 0.25% v/v	100	95	99
DPX-Y6202-31+ X-77	0.8EC	POST	0.8 OZ 0.25% v/v	100	97	100
VERDICT+ X-77	2L	POST	2.0 OZ 0.25% v/v	100	94	100
FUSILADE 2000+ X-77	1L	POST	3.0 OZ 0.25% v/v	100	89	98
POAST+ COC	1.5L	POST	0.19 LB 1 QT	100	88	98
WEEDY CHECK				0	0	0

Note: BASAGRAN (1 LB AI/A) + BUTYRAC 200 (2 OZ PRODUCT/A) WERE APPLIED ON MAY 31, 1986 TO CONTROL BROADLEAF WEEDS.

NO CROP INJURY WAS OBSERVED WITH ANY GRASS HERBICIDE TREATMENT.

Exp. Title: POSTEMERGENCE MORNINGGLORY CONTROL IN SOYBEANS  
 Researcher: M. LOUX and L. WAX Location: URBANA Field: M-17E  
 Design: RCB Reps: 4 Trts: 34 Plot size: 10 ft X 25 ft

Soil Type(s): BRENTON SILT LOAM/DRUMMER SILTY CLAY LOAM  
 Drainage: F (E-G-F-P) % O.M.: 4 pH: 6.0 % Slope: 1  
 P test #/A: 69 K test #/A: 264

Fert # applied/A N: 0 P: 0 K:0

Crop Current Crop: SOYBEANS Cultivar: WILLIAMS 82 Previous Crop: SOYBEANS  
 Planting Date: 05/08/86 Rate: 60#/A Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: F, F, SEEDBED FINISHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing *	EPO	POST	LPO
Date mm/dd/yy	5/23/86	5/30/86	6/08/86
Time (24 hr clk)	5 to 7	5 to 7	5 to 7
Crop stage lf/in	2/1	5/-	8/-
Soil Temp F	--	--	--
Soil Moist W-A-D	A	A	A
Air Temp F	60	75	80
% R.H.	40	90	80
Wind spd/dir	5-10/ENE	5 s W d	5 s NW d
% overcast	--	--	--
% residue	--	--	--
Carrier type	H <sub>2</sub> O	H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa	25	25	25
Spray system **	HH	HH	HH
Band width in.	--	--	--
Nozzle type	FF 8003	FF 8003	FF 8003
Nozzle ht. in	20	20	20
Pressure lbs.	30	30	30
Speed mph	3	3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

#### Species Present at Application:

Appl. Timing:	EPO	POST	LPO
Species	TAMG	TAMG	TAMG
Stage: lf/in	COTL.	2-4/1-3	4-7/>3
Density: #/sq ft	1.7	2.7	3.7

POSTEMERGENCE MORNINGGLORY CONTROL IN SOYBEANS

URBANA M-17E

TREATMENT	FORM.	RATE LB AI/AC	APPL.	% INJURY (6/16)	% TAMG CONTROL (6/16)
BLAZER+	2L	0.5	10 DAE	10	45
AG-98		0.25%	17 DAE	15	72
			26 DAE	27	94
BASAGRAN+	4S	0.75	10 DAE	2	31
COC		1 QT	17 DAE	7	66
			26 DAE	10	76
BASAGRAN+	4S	0.75	10 DAE	30	40
2,4-DB+	2L	0.03	17 DAE	32	72
COC		1 PT	26 DAE	17	83
BASAGRAN+	4S	0.5	10 DAE	12	47
BLAZER+	2L	0.38	17 DAE	27	70
COC		1 PT	26 DAE	27	94
COBRA+	2EC	0.2	10 DAE	22	66
COC		1 PT	17 DAE	40	62
			26 DAE	27	59
PPG 1013+	0.25EC	0.02	10 DAE	25	45
COC		1 PT	17 DAE	32	47
			26 DAE	30	67
PURSUIT+	1.92L	0.125	10 DAE	17	71
TWEEN 20		0.25%	17 DAE	22	77
			26 DAE	20	68
DPX-F6025+	25DG	0.19 OZ	10 DAE	7	52
X-77		0.25%	17 DAE	10	71
			26 DAE	20	65
SCEPTER+	1.5E	0.125	10 DAE	7	35
TWEEN 20		0.25%	17 DAE	7	27
			26 DAE	7	64
DYANAP	3L	2.25	10 DAE	17	37
			17 DAE	30	56
			26 DAE	20	45
DYANAP+	3L	2.25	10 DAE	20	46
2,4-DB	2L	0.03	17 DAE	30	76
			26 DAE	22	69
DYANAP	3L	3.0	17 DAE	35	59
			LSD:	7	18

Note: THE ENTIRE EXPERIMENTAL AREA RECEIVED A BROADCAST PREEMERGENCE APPLICATION OF 2.5 LBS OF LASSO AND 0.38 POUNDS OF METRIBUZIN TO SUPPRESS GRASSES AND BROADLEAVES.

Exp. Title: EARLY PREPLANT SOYBEAN STUDY  
 Researcher(s): FRITZ KOPPATSCHKE Location: URBANA Field: C-400N  
 Design: RCB Reps: 4 Trts: 45 Plot size: 10 ft X 30 ft

Soil Type(s): FLANAGAN SILT LOAM  
 Drainage: F-G (E-G-F-P) % O.M.: 4 pH: 5.8 % Slope: 1  
 P test #/A: 90 K test #/A: 381

Fert # applied/A: N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: WELLS II Previous Crop: CORN  
 Planting Date: 05/20/86 Rate: 60#/A Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: C Spring: NONE  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	EPP	PRE
	Date mm/dd/yy	04/07/86	05/23/86
	Time (24 hr clk)	05 to 09	17 to 20
	Crop stage lf/in	0/0	0/0
	Soil Temp F	48	65
	Soil Moist W-A-D	A	A
	Air Temp F	50	58
	% R.H.	90	70
	Wind spd/dir	S/8	E/8
	% overcast	0	10
	% residue	20-60	20-60
	Carrier type	H <sub>2</sub> O	H <sub>2</sub> O
	Carrier rate gpa	20	20
	Spray system **	HH	HH
	Band width in.	--	--
	Nozzle type	FF 8003	FF 8003
	Nozzle ht. in	20	20
	Pressure lbs.	35	35
	Speed mph	3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: PRE

Species COLQ

Stage: lf/in 3/4

Density: #/sq ft 2

Species JIWE

Stage: lf/in 3/3

Density: #/sq ft 4

Species GIFT

Stage: lf/in 3/3

Density: #/sq ft 6

Species VELE

Stage: lf/in 3/3

Density: #/sq ft 3

Notes: Weather conditions were extremely dry before and after early preplant herbicide application. The first significant rainfall occurred on May 1, 23 days after early preplant application. This allowed for many weed escapes and unacceptable herbicide performance.

EARLY PREPLANT SOYBEAN STUDY

URBANA C-N400 P.1

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (7/2)			
				JIWE	VELE	RRPW	GIFT
SENCOR+ DUAL 20% Residue	75DF 8E	EPP	0.75 3.0	81	86	86	79
SENCOR+ DUAL 60% Residue	75DF 8E	EPP	0.75 3.0	84	90	86	79
SENCOR+ DUAL 20% Residue	75DF 8E	EPP	0.88 3.0	78	91	88	86
SENCOR+ DUAL 60% Residue	75DF 8E	EPP	0.88 3.0	85	84	89	77
SENCOR+ DUAL/ SENCOR+ DUAL 20% Residue	75DF 8E 75DF 8E	EPP  PRE	0.625 2.0 0.125 1.0	90	91	91	91
SENCOR+ DUAL/ SENCOR+ DUAL 60% Residue	75DF 8E 75DF 8E	EPP  PRE	0.625 2.0 0.125 1.0	83	90	89	93
SENCOR+ DUAL/ SENCOR+ DUAL 20% Residue	75DF 8E 75DF 8E	EPP  PRE	0.625 2.0 0.25 1.0	93	93	93	91
SENCOR+ DUAL/ SENCOR+ DUAL 60% Residue	75DF 8E 75DF 8E	EPP  PRE	0.625 2.0 0.25 1.0	88	90	88	91
SENCOR/ SENCOR+ VERDICT 20% Residue	75DF 75DF 2L	EPP PRE	0.625 0.25 0.50	88	91	92	93

EARLY PREPLANT SOYBEAN STUDY

URBANA C-N400 P.2

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (7/2)			
				JIWE	VELE	RRPW	GIFT
SENCOR/ SENCOR+ VERDICT 60% Residue	75DF 75DF 2L	EPP PRE	0.625 0.25 0.50	80	86	85	92
SENCOR+ DUAL 20% Residue	75DF 8E	PRE	0.50 2.5	87	91	78	88
SENCOR+ DUAL 60% Residue	75DF 8E	PRE	0.50 2.5	91	89	83	90
SENCOR+ DUAL No Residue	75DF 8E	PRE	0.50 2.5	85	85	92	90
HAND WEEDED CHECK				100	100	100	100
WEEDY CHECK				0	0	0	0
SENCOR+ COMMAND	75DF 6EC	EPP	0.75 1.0	90	94	84	90
SENCOR+ CINCH	75DF 7E	EPP	0.75 1.0	77	85	87	78
SENCOR+ HARNESS	75DF 8L	EPP	0.75 2.0	79	88	92	81
SENCOR+ LASSO MT	75DF 4L	EPP	0.75 3.75	85	88	92	79
SENCOR+ DUAL	75DF 8E	EPP	0.625 3.0	80	81	91	73
TURBO	8EC	EPP	0.75/3.0 eqv.	86	81	91	76
COMMAND	6EC	EPP	1.25	86	93	67	93
BLADEX	4L	EPP	4.0	86	84	86	86
BLADEX+ DUAL	4L 8E	EPP	3.0 3.0	81	76	86	88

## EARLY PREPLANT SOYBEAN STUDY

URBANA C-N400 P.3

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (7/2)			
				JIWE	VELE	RRPW	GIFT
BLADEX+	4L	EPP	3.0	90	94	85	92
COMMAND	6EC		1.0				
BLADEX+	4L	EPP	3.0	81	85	78	84
CINCH	7E		1.0				
DPX-L8348+	75DF	EPP	8.0 OZ	75	90	91	78
DUAL	8E		3.0				
DPX-L8348+	75DF	EPP	8.0 OZ	91	93	93	90
COMMAND	6EC		1.0				
2,4-D LVE+	3.8L	3DAP	0.5	91	91	91	81
SENCOR+	75DF		0.38				
POAST+	1.5L		0.1				
COC			1 QT				
POAST	1.5L		0.1				
SCEPTER	1.5L	EPP	0.125	73	84	91	88
SCEPTER+	1.5L	EPP	0.125	84	94	93	90
COMMAND	6EC		1.0				
SCEPTER+	1.5L	EPP	0.125	77	81	91	84
DUAL	8E		3.0				
PURSUIT	1.92L	EPP	0.125	87	88	90	85
PURSUIT+	1.92L	EPP	0.125	83	88	93	92
DUAL	8E		3.0				
PURSUIT+	1.92L	EPP	0.125	86	94	93	94
COMMAND	6EC		1.0				
PROWL+	4EC	EPP	1.0	89	94	90	89
SENCOR/	75DF		0.625				
PROWL+	4EC	PRE	0.5				
SENCOR	75DF		0.125				
PROWL/	4EC	EPP	1.5	91	88	88	77
SENCOR+	75DF	PRE	0.5				
BRONCO	4L		4.0				
SURFLAN/	4AS	EPP	1.5	94	93	94	79
SENCOR+	75DF	PRE	0.5				
BRONCO	4L		4.0				

EARLY PREPLANT SOYBEAN STUDY

URBANA C-N400 P.4

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (7/2)			
				JIWE	VELE	RRPW	GIFT
PURSUIT+ COMMAND	1.92L 6EC	PRE	0.09 0.75	94	95	96	93
SENCOR+ COMMAND	75DF 6EC	PRE	0.5 0.75	94	94	89	90
SENCOR+ HARNESS	75DF 8L	PRE	0.5 1.5	93	91	90	89
SENCOR+ LASSO MT	75DF 4L	PRE	0.5 3.0	93	91	90	87
SCEPTER+ COMMAND	1.5L 6EC	PRE	0.125 0.75	88	91	92	94
WEEDY CHECK (WITH BURN-DOWN AT PLANTING)				0	0	0	0
WEEDY CHECK (FULL SEASON)				0	0	0	0

Note: ALL PRE AND SPLIT APPLICATION TREATMENTS RECEIVED 1.0 LB/AI ROUNDUP AT PRE APPLICATION EXCEPT TREATMENTS 9, 10, 37, 38.

Exp. Title: NO-TILL SOYBEAN WEED CONTROL STUDY  
 Researcher(s): J. CANTWELL and R. LIEBL Location: URBANA Field: C-700  
 Design: RCB Reps: 3 Trts: 32 Plot size: 10 ft X 40 ft

Soil Type(s): FLANAGAN SILT LOAM  
 Drainage: F (E-G-F-P) % O.M.: 5 pH: 6.3 % Slope: 0-2  
 P test #/A: 76 K test #/A: 380

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: WELLS II Previous Crop: CORN  
 Planting Date: 06-05-86 Rate: 60#/A Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: NONE  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PRE	POST
Date mm/dd/yy		06/10/86	7/03/86
Time (24 hr clk)		06 to 07	06 to 07
Crop stage lf/in		0/0	4/8
Soil Temp F		--	--
Soil Moist W-A-D		--	--
Air Temp F		--	80
% R.H.		--	90
Wind spd/dir		7/SSE	5-8/NNE
% overcast		--	--
% residue		--	--
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		17	18
Spray system **		HH	HH
Band width in.		--	--
Nozzle type		FF 8002	FF 8002
Nozzle ht. in		20	20
Pressure lbs.		40	40
Speed mph		3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	PRE	POST
Species	CODA	PRSI
Stage: lf/in	--/24	--/6"
Density: #/sq ft	--	--
Species	VELE	VELE
Stage: lf/in	--/24	--/24
Density: #/sq ft	--	--
Species	COLQ	COLQ
Stage: lf/in	--/36	--/12
Density: #/sq ft	--	--
Species	RRPW	RRPW
Stage: lf/in	--/10	--/8"
Density: #/sq ft	--	--
Species	PRLE	
Stage: lf/in	--/36	
Density: #/sq ft	--	
Species	GIFT	
Stage: lf/in	--/10	
Density: #/sq ft	--	
Species	TAMU	
Stage: lf/in	--/48	
Density: #/sq ft	--	

Notes: 0.25 INCHES OF RAIN FELL ONE HOUR AFTER APPLICATION. LACTOFEN APPLICATIONS RESULTED IN 20% CROP INJURY.

NO-TILL SOYBEAN WEED CONTROL STUDY

URBANA C-700 P.1

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/21)				
				GIFT	VELE	RRPW	COLQ	CODA
DUAL+	8E	PRE	2.0	90	95	95	100	100
IGNITE+	1.67L		0.89					
METRIBUZIN	75DF		0.5					
DUAL+	8E	PRE	2.5	92	97	92	100	100
IGNITE+	1.67L		1.11					
METRIBUZIN	75DF		0.5					
DUAL+	8E	PRE	2.0	97	80	80	90	97
ROUNDUP/	4L		1.0					
BASAGRAN+	4S	POST	0.5					
BLAZER+COC	2L		0.25+1PT					
DUAL+	8E	PRE	2.5	95	78	87	95	93
ROUNDUP/	4L		1.0					
BASAGRAN+	4S	POST	0.5					
BLAZER+COC	2L		0.25+1PT					
CGA-24704+	2.5EC	PRE	1.25	98	88	80	92	97
ROUNDUP/	4L		1.0					
BASAGRAN+	4S	POST	0.5					
BLAZER+COC	2L		0.25+1PT					
CGA-24704+	2.5EC	PRE	1.4	98	70	80	90	97
ROUNDUP/	4L		1.0					
BASAGRAN+	4S	POST	0.5					
BLAZER+COC	2L		0.25+1PT					
CGA-24704+	2.5EC	PRE	1.8	93	95	90	100	100
ROUNDUP/	4L		1.0					
BASAGRAN+	4S	POST	0.5					
BLAZER+COC	2L		0.25+1PT					
CHECK (ROUNDUP)	4L	PRE	1.0					
LASSO+	4MT	PRE	2.75	83	82	85	92	90
ROUNDUP/	4L		1.0					
BASAGRAN+	4S	POST	0.5					
BLAZER+COC	2L		0.25+1PT					
VERDICT+	2L	PRE	0.25	100	87	83	90	97
METRIBUZIN+COC	75DF		0.5+1QT					
VERDICT+	2L	PRE	0.50	100	97	98	95	97
METRIBUZIN+COC	75DF		0.5+1QT					

## NO-TILL SOYBEAN WEED CONTROL STUDY

URBANA C-700 P.2

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/21)				
				GIFT	VELE	RRPW	COLQ	CODA
VERDICT+	2L	PRE	0.25	100	100	97	93	100
METRIBUZIN	75DF		0.5					
STARANE+COC	1.67L		0.25+1QT					
VERDICT+	2L	PRE	0.5	100	100	87	95	97
METRIBUZIN	75DF		0.5					
STARANE+COC	1.67L		0.25+1QT					
VERDICT+	2L	PRE	0.25	100	95	92	92	97
METRIBUZIN+	75DF		0.5					
STARANE+COC	1.67L		0.12+1QT					
PARAQUAT+	2L	PRE	0.5	85	100	100	100	100
LAISO+	4MT		2.5					
METRIBUZIN+X77/	75DF		0.4+0.25%					
COBRA	2EC	POST	0.2					
PARAQUAT+	2L	PRE	0.5	92	97	97	95	100
DUAL+	8E		2.0					
METRIBUZIN+X77/	75DF		0.4+0.25%					
COBRA	2EC	POST	0.2					
PARAQUAT+	2L	PRE	0.5	97	100	99	98	100
COMMAND+	6E		1.0					
METRIBUZIN+X77/	75DF		0.4+0.25%					
COBRA	2EC	POST	0.2					
BRONCO+	4L	PRE	3.0	98	93	93	100	98
SCEPTER	1.5L		0.0625					
BRONCO+	4L	PRE	3.0	97	90	100	100	98
SCEPTER	1.5L		0.125					
BRONCO+	4L	PRE	3.0	93	97	95	97	100
METRIBUZIN	75DF		0.5					
BRONCO+	4L	PRE	4.0	92	98	95	100	98
METRIBUZIN	75DF		0.5					
ROUNDUP+	4L	PRE	1.0	91	97	98	100	100
CINCH+	7EC		1.25					
METRIBUZIN	75DF		0.5					
BRONCO+	4L	PRE	3.64	96	80	92	100	100
AMIBEN	75DS		2.7					

## NO-TILL SOYBEAN WEED CONTROL STUDY

URBANA C-700 P.3

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/21)				
				GIFT	VELE	RRPW	COLQ	CODA
ROUNDUP+	4L	PRE	1.0	83	87	93	85	93
AMIBEN+	75DS		2.25					
DUAL	8E		2.0					
ROUNDUP+	4L	PRE	1.0	82	85	92	92	100
AMIBEN+	75DS		1.8					
METRIBUZIN	75DF		0.4					
DUAL	8E		2.0					
ROUNDUP+	4L	PRE	1.0	85	78	83	95	100
AMIBEN+	75DS		2.7					
COMMAND	6EC		0.75					
ROUNDUP+	4L	PRE	1.0	95	82	95	83	97
AMIBEN+	75DS		2.7					
SCEPTER	1.5L		0.125					
POAST+	1.5L	PRE	0.1	87	93	97	100	100
2,4-D+COC/	3.8L		0.5+1QT					
POAST+	1.5L	POST	0.15					
BASAGRAN+COC	4S		1.0+1QT					
POAST+	1.5L	PRE	0.1	98	100	100	100	100
2,4-D+	3.8L		0.5					
METRIBUZIN+COC/	75DF		0.25+1QT					
POAST+	1.5L	POST	0.15					
BASAGRAN+COC	4S		1.0+1QT					
ROUNDUP+	4L	PRE	1.0	97	99	93	100	100
2,4-D/	3.8L		0.5					
POAST+	1.5L	POST	0.15					
BASAGRAN+COC	4S		1.0+1QT					
IGNITE+	1.67L	PRE	0.75	100	100	97	98	100
METRIBUZIN/	75DF		0.5					
WHIP+COC	1L	POST	0.15+1QT					
IGNITE+	1.67L	PRE	0.75	83	87	72	98	100
DUAL/	8E		2.5					
BASAGRAN+COC	4S	POST	1.0+1QT					

Exp. Title: PREEMERGENCE CORN STUDY  
Researcher(s): LIEBL, WAX, ORFANEDES Location: BROWNSTOWN Field: E-2  
Design: RCB Reps: 3 Trts: 37 Plot size: 10 ft X 40 ft

Soil Type: CISNE SILT LOAM  
Drainage: P (E-G-F-P) % O.M.: 2 pH: 6.7 % Slope: 0-2  
P test #/A: 138 K test #/A: 308

Fert # applied/A N: 180 P: 88 K: 150 Forms: 82-0-0, 0-44-0, 0-0-60

Crop Current Crop: CORN Cultivar: PIONEER 3378 Previous Crop: SOYBEANS  
Planting Date: 04/29/86 Rate: 23,200 PPA Depth: 1.5 inches  
Row Spacing: 30 inches

Till\* Fall: C Spring: D, F, O-CULTIMULCHER  
Incorp Method: NONE Incorp Time -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing \* PRE  
Date mm/dd/yy 05/02/86  
Time (24 hr clk) 11 to 13  
Crop stage lf/in 0/0  
Soil Temp F 60  
Soil Moist W-A-D D  
Air Temp F 60  
% R.H. 45  
Wind spd/dir 10/NW  
% overcast 5  
% residue 20  
Carrier type H<sub>2</sub>O  
Carrier rate gpa 18  
Spray system \*\* HH  
Band width in. --  
Nozzle type FF 8003  
Nozzle ht. in 20  
Pressure lbs. 26  
Speed mph 3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

## PREEMERGENCE CORN STUDY

BROWNSTOWN E-2 P.1

TREATMENT	FORM.	RATE LB AI/AC	RATING DATE	% WEED CONTROL		
				GIFT	PWSP	COLQ
ATRAZINE	4L	1.75	6/18	83	99	100
			7/7	66	100	100
BLADEX	4L	2.25	6/18	77	90	95
			7/7	70	97	100
BLADEX+ ATRAZINE	4L	1.0	6/18	73	96	100
	4L	1.0	7/7	72	100	100
BLADEX+ ATRAZINE	4L	1.5	6/18	79	96	100
	4L	0.75	7/7	81	100	100
BLADEX+ ATRAZINE	4L	0.75	6/18	87	100	100
	4L	1.5	7/7	90	100	100
PROWL+ ATRAZINE	4EC	1.0	6/18	81	96	100
	4L	1.0	7/7	77	97	100
PROWL+ BLADEX	4EC	1.0	6/18	80	93	92
	4L	1.25	7/7	73	73	87
DUAL+ BLADEX	8E	1.5	6/18	83	94	99
	4L	1.25	7/7	83	95	97
LASSO+ BLADEX	4MT	2.0	6/18	87	95	96
	4L	1.25	7/7	88	98	95
LASSO+ BLADEX+ ATRAZINE	4MT	2.0	6/18	78	95	92
	4L	0.75	7/7	72	88	97
	4L	0.5				
DUAL+ BLADEX+ ATRAZINE	8E	1.5	6/18	78	99	98
	4L	0.75	7/7	75	94	90
	4L	0.5				
LASSO+ BLADEX+ METRIBUZIN	4MT	2.0	6/18	86	93	80
	4L	1.0	7/7	84	52	93
	75DF	0.12				
LASSO+ ATRAZINE+ METRIBUZIN	4MT	2.0	6/18	87	98	100
	4L	0.75	7/7	87	100	100
	75DF	0.12				
LASSO+ ATRAZINE+ METRIBUZIN	4MT	2.0	6/18	86	98	99
	4L	0.75	7/7	83	98	95
	75DF	0.24				

PREEMERGENCE CORN STUDY

BROWNSTOWN E-2 P.2

TREATMENT	FORM.	RATE LB AI/AC	RATING DATE	% WEED CONTROL		
				GIFT	PWSP	COLQ
LASSO+	4MT	2.0	6/18	88	84	96
METRIBUZIN	75DF	0.24	7/7	83	81	78
DUAL+	8E	1.5	6/18	93	98	100
ATRAZINE	4L	1.0	7/7	94	98	98
DUAL+	8E	2.0	6/18	92	96	99
ATRAZINE	4L	1.0	7/7	87	92	93
DUAL+	8E	2.5	6/18	84	99	100
ATRAZINE	4L	1.0	7/7	88	100	100
LASSO+	4MT	2.0	6/18	80	99	100
ATRAZINE	4L	1.0	7/7	73	100	100
LASSO+	4MT	2.5	6/18	88	97	100
ATRAZINE	4L	1.0	7/7	82	100	100
LASSO+	4MT	3.0	6/18	93	100	100
ATRAZINE	4L	1.0	7/7	93	100	100
SUTAN ENCAP	4S	4.0	6/18	53	82	93
			7/7	38	82	63
SUTAN ENCAP	4S	6.0	6/18	93	92	93
			7/7	60	68	75
SUTAN ENCAP+	4S	4.0	6/18	68	93	83
ATRAZINE	4L	1.0	7/7	40	90	90
SUTAN ENCAP+	4S	6.0	6/18	72	99	100
ATRAZINE	4L	1.0	7/7	50	95	95
ERADICANE ENCAP	3S	4.0	6/18	57	93	97
			7/7	55	87	77
ERADICANE ENCAP	3S	6.0	6/18	71	97	93
			7/7	62	77	67
ERADICANE ENCAP+	3S	4.0	6/18	75	98	99
ATRAZINE	4L	1.0	7/7	85	98	98
ERADICANE ENCAP+	3S	6.0	6/18	67	100	100
ATRAZINE	4L	1.0	7/7	73	93	93

PREEMERGENCE CORN STUDY

BROWNSTOWN E-2 P.3

TREATMENT	FORM.	RATE LB AI/AC	RATING DATE	% WEED CONTROL		
				GIFT	PWSP	COLQ
SUTAN+	6.7E	6.0	6/18	53	96	93
			7/7	53	95	92
ERADICANE	6.7E	6.0	6/18	68	94	97
			7/7	70	95	90
RS-118	80DF	3.0	6/18	87	99	100
			7/7	90	100	100
RS-238	80DF	2.54	6/18	85	97	95
			7/7	88	100	100
DUAL+ PPG-1259	8E	2.0	6/18	42	79	68
	3FL	0.15	7/7	83	93	92
DUAL+ PPG-1259	8E	2.0	6/18	69	96	80
	3FL	0.2	7/7	77	90	40
DUAL+ PPG-1259+ ATRAZINE	8E	2.0	6/18	77	91	89
	3FL	0.15	7/7	82	100	100
	4L	0.75				
UNTREATED CHECK			6/18	0	0	0
			7/7	0	0	0

Exp. Title PREEMERGENCE/POSTEMERGENCE SOYBEAN STUDY  
 Researcher M. LOUX and L. WAX Location: BROWNSTOWN Field: C-4  
 Design: RCB Reps: 4 Trts: 25 Plot size: 10 ft X 25 ft

Soil Type: CISNE SILT LOAM  
 Drainage: P (E-G-F-P) % O.M.: 2.0 pH: 6.2 % Slope: 0-2  
 P test #/A: 94 K test #/A: 360

Fert # applied/A N: 0 P: 200 K: 250 Form: 0-44-0 Form: 0-0-60

Crop Current Crop: SOYBEANS Cultivar: WILLIAMS 82 Previous Crop: SOYBEANS  
 Planting Date: 5/19/86 Rate: 60#/A Depth: 1.5 inch  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: D, D, O-CULTIMULCHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PRE	POST
Date mm/dd/yy		05/19/86	06/12/86
Time (24 hr clk)		13 to 15	10 to 11
Crop stage lf/in		0/0	5/-
Soil Temp F		--	--
Soil Moist W-A-D		A	A
Air Temp F		75	75
% R.H.		70	70
Wind spd/dir		10/N	15/W
% overcast		--	--
% residue		5	--
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		25	25
Spray system **		HH	HH
Band width in.		--	--
Nozzle type		FF 8003	FF 8003
Nozzle ht. in		20	20
Pressure lbs.		30	30
Speed mph		3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: POST

Species GIFT

Stage: 1f/in --/7

Density: #/sq ft 8

Species TAMC

Stage: 1f/in 3/3

Density: #/sq ft 0.2

Species CORW

Stage: 1f/in --/3

Density: #/sq ft 0.3

Species COCB

Stage: 1f/in --/3

Density: #/sq ft 0.2

Species VELE

Stage: 1f/in --/2

Density: #/sq ft 0.1

Species RRPW

Stage: 1f/in --/3

Density: #/sq ft 0.1

Notes: RAINFALL AFTER APPLICATION: 1ST WEEK --0.29 in. 2ND WEEK--0.76 FIRST  
SIGNIFICANT RAINFALL FOLLOWING PREEMERGENCE APPLICATION WAS ON MAY 26 -  
0.29 in.

PREEMERGENCE/POSTEMERGENCE SOYBEAN STUDY

BROWNSTOWN C-4

TREATMENT	FORM.	RATE LB AI/AC	APPL.	% INJURY	% WEED CONTROL (7/7)					
					GIFT	TAMG	CORW	RRPW	VELE	COCB
COMMAND	6EC	0.5	PRE	0	100	15	82	100	100	10
COMMAND	6EC	1.0	PRE	0	100	5	99	90	100	50
COMMAND+ METRIBUZIN	6EC 75DF	0.5 0.38	PRE	2	100	19	100	100	100	60
COMMAND+ METRIBUZIN	6EC 75DF	1.0 0.25	PRE	0	100	20	100	100	100	90
PURSUIT	1.92L	0.06	PRE	0	88	40	55	100	62	57
PURSUIT	1.92L	0.12	PRE	5	98	47	97	100	89	87
SCEPTER	1.5L	0.06	PRE	2	40	37	47	97	37	65
SCEPTER	1.5L	0.12	PRE	0	62	40	82	100	50	57
COMMAND+ SCEPTER	6EC 1.5L	0.5 0.06	PRE	0	100	51	94	100	99	55
COMMAND+ SCEPTER	6EC 1.5L	0.5 0.12	PRE	5	100	59	97	100	99	87
CLASSIC	25DG	0.025	PRE	0	43	33	70	100	47	65
CLASSIC	25DG	0.05	PRE	0	51	32	94	100	30	30
DPX-L8348	75DF	0.27	PRE	5	77	17	99	100	77	50
DPX-L8348	75DF	0.4	PRE	0	98	35	99	100	100	60
COMMAND+ CLASSIC	6EC 25DG	0.5 0.025	PRE	0	100	30	88	95	97	75
COMMAND+ CLASSIC	6EC 25DG	0.5 0.05	PRE	2	100	52	100	100	97	72
DUAL+ METRIBUZIN	8E 75DF	2.0 0.38	PRE	0	99	7	90	100	100	73
LISSO+ METRIBUZIN	4MT 75DF	2.5 0.38	PRE	0	100	5	100	100	100	90
LISSO+ LOROX	4MT 4L	2.5 0.5	PRE	0	100	25	77	100	92	17

PREEMERGENCE/POSTEMERGENCE SOYBEAN STUDY

BROWNSTOWN C-4 P.2

TREATMENT	FORM.	RATE LB AI/AC	APPL.	% INJURY	% WEED CONTROL (7/7)					
					GIFT	TAMG	CORW	RRPW	VELE	COCB
SURFLAN+	85DF	1.0	PRE	2	97	57	93	100	100	73
METRIBUZIN	75DF	0.38								
LASSO/	4MT	2.5	PRE	7	96	85	100	100	95	97
BASAGRAN+	4S	0.5	POST							
BLAZER+	2L	0.38								
COC		1 PT								
LASSO/	4MT	2.5	PRE	0	100	40	94	100	32	100
SCEPTER+	1.5S	0.12	POST							
X-77		0.25%								
PURSUIT+	1.92L	0.12	POST	12	97	85	96	100	100	100
X-77		0.25%								
CLASSIC+	25DG	0.013	POST	0	100	57	94	100	95	100
ASSURE+	0.8EC	0.06								
X-77		0.25%								
POAST+	1.5EC	0.3	POST	12	99	81	100	100	95	98
BASAGRAN+	4S	0.5								
BLAZER+	2L	0.38								
COC		1 PT								

### SUMMARY

The amount and frequency of rainfall following application was sufficient to induce preemergence activity for most of the herbicides in this study, but additional rain could have increased activity substantially. Scepter, Pursuit, and Classic appeared to require greater amounts of rainfall than that received for effective soil activity on tall morningglory, velvetleaf, and common cocklebur. Command was more consistent under these rainfall conditions, providing control of all weeds present except morningglory and cocklebur when applied alone at 1.0 lb. The addition of 0.38 lb of metribuzin to Command improved cocklebur to 90%. The 0.12 lb. rate of Pursuit provided excellent control of foxtail, common ragweed, and pigweed, and somewhat less effective control of velvetleaf and cocklebur, when applied preemergence. Scepter provided effective soil-applied control of pigweed only, while Classic controlled pigweed and ragweed at the 0.05 lb rate. The addition of Command to Scepter or Classic resulted in effective preemergence control of all weeds except morningglory and cocklebur. The latter effect was also observed with the addition of metribuzin to Classic, applied as the premix DPX-L8348.

Postemergence applications of Pursuit or a combination of Poast, Basagran, and Blazer provided the most effective control of this spectrum of weeds. These two treatments also caused the greatest crop injury, but soybeans appeared to outgrow this injury later in the season.

Exp. Title: POSTEMERGENCE MORNINGGLORY CONTROL IN SOYBEANS  
 Researcher M. LOUX AND L. WAX Location: BROWNSTOWN Field C-4  
 Design: RCB Reps: 4 Trts: 24 Plot size: 10 ft X 25 ft

Soil Type: CISNE SILT LOAM  
 Drainage: P (E-G-F-P) % O.M.: 2.0 pH: 6.2 % Slope: 0-2  
 P test #/A: 94 K test #/A: 360

Fert # applied/A N: 0 P: 200 K: 250 FORM: 0-44-0 FORM: 0-0-60

Crop Current Crop: SOYBEANS Cultivar: WILLIAMS 82 Previous Crop: SOYBEAN  
 Planting Date: 5/19/86 Rate: 60#/A Depth: 1.5 inch  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: D, D, O-CULTIMULCHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing *	EPO	POST	LPO
Date mm/dd/yy	06/05/86	06/12/86	06/19/86
Time (24 hr clk)	09 to 11	09 to 11	09 to 11
Crop stage lf/in	2/-	8/-	11/-
Soil Temp F	--	--	--
Soil Moist W-A-D	A	A	A
Air Temp F	75	75	75
% R.H.	70	50	80
Wind spd/dir	10/W	20/W	5/SSW
% overcast	--	--	--
% residue	--	--	--
Carrier type	H <sub>2</sub> O	H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa	25	25	25
Spray system **	HH	HH	HH
Band width in.	--	--	--
Nozzle type	FF 800E	FF 8003	FF 8003
Nozzle ht. in	20	20	20
Pressure lbs.	30	30	30
Speed mph	3	3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	EPO	POST	LPO
Species	TAMG	TAMG	TAMG
Stage: lf/in	1-2/<2	2-4/2-4	>4/>4
Density: #/sq ft	1.4	1.6	1.4

POSTEMERGENCE MORNINGGLORY CONTROL IN SOYBEANS

BROWNSTOWN C-4

TREATMENT	FORM.	RATE LB AI/AC	APPL.	% INJURY (7/7)	% TAMG CONTROL (7/7)
BLAZER+ AG-98	2L	0.5 0.25%	10 DAE 17 DAE 24 DAE	2 5 5	40 79 29
BASAGRAN+ COC	4S	0.75 1 QT	10 DAE 17 DAE 24 DAE	0 5 7	62 80 33
BASAGRAN+ 2,4-DB+ COC	4S 2L	0.75 0.03 1 PT	10 DAE 17 DAE 24 DAE	2 7 12	82 91 64
BASAGRAN+ BLAZER+ COC	4S 2L	0.5 0.38 1 PT	10 DAE 17 DAE 24 DAE	12 10 0	79 75 34
COBRA+ COC	2EC	0.2 1 PT	10 DAE 17 DAE 24 DAE	10 7 2	57 54 27
PPG 1013+ COC	0.25EC	0.02 1 PT	10 DAE 17 DAE 24 DAE	12 7 7	42 42 35
PURSUIT+ TWEEN 20	1.92L	0.125 0.25%	10 DAE 17 DAE 24 DAE	12 12 15	91 87 54
DPX-F6025+ X-77	25DG	0.19 OZ 0.25%	10 DAE 17 DAE 24 DAE	2 10 5	61 47 32
			LSD:	9	21

Note: THE ENTIRE TEST AREA RECEIVED A PREEMERGENCE APPLICATION OF 2.0 LBS OF LASSO AND 0.31 LBS OF METRIBUZIN.

Exp. Title: NO-TILL SOYBEANS IN A RYE COVER CROP  
 Researcher(s): LIEBL, WAX, ORFANEDES Location: BROWNSTOWN Field: C-10  
 Design: RCB Reps: 3 Trts: 24 Plot size: 10 ft X 40 ft

Soil Type(s): HUEY SILT LOAM  
 Drainage: P (E-G-F-P) % O.M.: 2 pH: 6.2 % Slope: 0-2  
 P test #/A: 55 K test #/A: 164

Fert # applied/A N: 0 P: 88 K: 150 Form: 0-44-0 Form: 0-0-60

Crop Current Crop: SOYBEANS Cultivar: WILLIAMS 82 Previous Crop: RYE  
 Planting Date: 06/03/86 Rate: 60 #/A Depth: 0.75 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: NONE  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	KND	PRE	POST
Date mm/dd/yy	04/24/86	06/03/86	06/27/86	
Time (24 hr clk)	09 to 11	14 to 15	09 to 10	
Crop stage lf/in	0/0	0/0	6/5	
Soil Temp F	60	75	75	
Soil Moist W-A-D	D	D	D	
Air Temp F	72	85	79	
% R.H.	40	50	60	
Wind spd/dir	15/SW	3/NE	5/W	
% overcast	10	10	30	
% residue	90	75	60	
Carrier type	H <sub>2</sub> O	H <sub>2</sub> O	H <sub>2</sub> O	
Carrier rate gpa	20	18	18	
Spray system **	HH	HH	HH	
Band width in.	--	--	--	
Nozzle type	FF 8003	FF 8003	FF 8003	
Nozzle ht. in	20	20	20	
Pressure lbs.	30	30	40	
Speed mph	3	3	3	

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	KND	PRE	POST
Species	RYE	GIFT	GIFT
Stage: lf/in	12/36	4/6	6/10
Density: #/sq ft	12	<1	<1
Species	--	COLQ	COLQ
Stage: lf/in	--	4/3	6/4
Density: #/sq ft	--	<1	<1

Notes: VERY DRY CONDITIONS PREVAILED DURING THE SPRING AND EARLY SUMMER RESULTING IN VERY LITTLE WEED GERMINATION AND GROWTH.

NO-TILL SOYBEANS IN A RYE COVER CROP

BROWNSTOWN C-10 P.1

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (7/7)		(7/7) % RYE KILL	(7/7) % STUNTED
				GIFT	COLQ		
PARAQUAT+	2L	KND	0.25	100	100	82	43
LOROX/	50DF		0.13				
DUAL+	8E	PRE	2.0				
SCEPTER	1.5L		0.125				
PARAQUAT+	2L	KND	0.25	100	100	78	43
LOROX/	50DF		0.13				
SURFLAN/	4AS	PRE	1.0				
BASAGRAN+	4S	POST	0.5				
BLAZER	2L		0.38				
PARAQUAT+	2L	KND	0.25	100	100	80	43
LOROX/	50DF		0.13				
DUAL+	8E	PRE	2.0				
METRIBUZIN	75DF		0.38				
PARAQUAT+	2L	KND	0.25	100	100	77	42
LOROX/	50DF		0.13				
COMMAND	6EC	PRE	1.25				
PARAQUAT+	2L	KND	0.25	100	100	33	20
GOAL/	1.6L		0.13				
DUAL+	8E	PRE	2.0				
SCEPTER	1.5L		0.125				
PARAQUAT+	2L	KND	0.25	100	100	33	22
GOAL/	1.6L		0.13				
SURFLAN/	4AS	PRE	1.0				
BASAGRAN+	4S	POST	0.5				
BLAZER	2L		0.38				
PARAQUAT+	2L	KND	0.25	100	100	47	25
GOAL/	1.6L		0.13				
DUAL+	8E	PRE	2.0				
METRIBUZIN	75DF		0.38				
PARAQUAT+	2L	KND	0.25	100	100	35	18
GOAL/	1.6L		0.13				
COMMAND	6EC	PRE	1.25				
ROUNDUP+	4L	KND	0.75	83	100	24	8
2,4-D AMINE/	3.8L		0.5				
DUAL+	8E	PRE	2.0				
SCEPTER	1.5L		0.125				

## NO-TILL SOYBEANS IN A RYE COVER CROP

BROWNSTOWN C-10 P.2

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (7/7)		(7/7) %	(7/7) %
				GIFT	COLQ	RYE KILL	STUNTED
ROUNDUP+	4L	KND	0.75	100	100	34	10
2,4-D AMINE/	3.8L		0.5				
SURFLAN/	4AS	PRE	1.0				
BASAGRAN+	4S	POST	0.5				
BLAZER	2L		0.38				
ROUNDUP+	4L	KND	0.75	100	100	27	7
2,4-D AMINE/	3.8L		0.5				
DUAL+	8E	PRE	2.0				
METRIBUZIN	75DF		0.38				
ROUNDUP+	4L	KND	0.75	100	100	23	7
2,4-D AMINE/	3.8L		0.5				
COMMAND	6EC	PRE	1.25				
PARAQUAT/	2L	KND	0.25	100	100	65	39
DUAL+	8E	PRE	2.0				
SCEPTER	1.5L		0.125				
PARAQUAT/	2L	KND	0.25	100	100	68	35
SURFLAN/	4AS	PRE	1.0				
BASAGRAN+	4S	POST	0.5				
BLAZER	2L		0.38				
PARAQUAT/	2L	KND	0.25	100	100	63	31
DUAL+	8E	PRE	2.0				
METRIBUZIN	75DF		0.38				
PARAQUAT/	2L	KND	0.25	100	100	70	37
COMMAND	6EC	PRE	1.25				
ROUNDUP/	4L	KND	0.75	100	100	31	8
DUAL+	8E	PRE	2.0				
SCEPTER	1.5L		0.125				
ROUNDUP/	4L	KND	0.75	100	93	27	7
SURFLAN/	4AS	PRE	1.0				
BASAGRAN+	4S	POST	0.5				
BLAZER	2L		0.38				
ROUNDUP/	4L	KND	0.75	100	100	25	10
DUAL+	8E	PRE	2.0				
METRIBUZIN	75DF		0.38				

NO-TILL SOYBEANS IN A RYE COVER CROP

BROWNSTOWN C-10 P.3

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (7/7)		(7/7) %	(7/7) %
				GIFT	COLQ	RYE KILL	STUNTED
ROUNDUP/ COMMAND	4L	KND	0.75	100	100	25	5
	6EC	PRE	1.25				
IGNITE/ DUAL+ SCEPTER	1.67L	KND	0.75	100	100	88	57
	8E	PRE	2.0				
	1.5L		0.125				
IGNITE/ SURFLAN/ BASAGRAN+ BLAZER	1.67L	KND	0.75	100	100	82	48
	4AS	PRE	1.0				
	4S	POST	0.5				
	2L		0.38				
IGNITE/ DUAL+ METRIBUZIN	1.67L	KND	0.75	100	100	87	48
	8E	PRE	2.0				
	75DF		0.38				
IGNITE/ COMMAND	1.67L	KND	0.75	100	100	65	43
	6EC	PRE	1.25				

Exp. Title: PREEMERGENCE/POSTEMERGENCE SORGHUM STUDY  
 Researcher(s): LIEBL, WAX, ORFANEDES Location: BROWNSTOWN Field: C-7S  
 Design: RCB Reps: 3 Trts: 23 Plot size: 10 ft X 40 ft

Soil Type(s): HOYLETON SILT LOAM/HUEY SILT LOAM.  
 Drainage: F-P (E-G-F-P) % O.M.: 2 pH: 7.0 % Slope: 0-2  
 P test #/A: 64 K test #/A: 168

Fert # applied/A N: 180 P:88 K: 150 Forms: 82-0-0, 0-44-0, 0-0-60

Crop Current Crop: SORGHUM Cultivar: PIONEER 8501C Previous Crop: CORN  
 Planting Date: 06/02/86 Rate: 110,000 PPA Depth: 0.75 inches  
 Row Spacing: 30 inches

Till\* Fall: C Spring: D, D, F, O-CULTIMULCHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PRE	POST
Date mm/dd/yy		06/03/86	06/27/86
Time (24 hr clk)		11 to 12	10 to 11
Crop stage lf/in		0/0	5/5
Soil Temp F		75	75
Soil Moist W-A-D		D	D
Air Temp F		85	82
% R.H.		60	65
Wind spd/dir		3/E	8/W
% overcast		0	20
% residue		0	0
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		18	18
Spray system **		HH	HH
Band width in.		--	--
Nozzle type		FF 8003	FF 8002
Nozzle ht. in		20	20
Pressure lbs.		30	40
Speed mph		3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: POST

Species GIFT

Stage: lf/in 3/2

Density: #/sq ft <1

Species PWSP

Stage: lf/in 3/1.5

Density: #/sq ft <1

Notes: EXTREMELY DRY FIELD CONDITIONS PREVAILED DURING THE SPRING AND EARLY SUMMER RESULTING IN VERY MINIMAL WEED EMERGENCE AND GROWTH.

PREEMERGENCE/POSTEMERGENCE SORGHUM STUDY

BROWNSTOWN C-7S P.1

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (7/7)	
				GIFT	PWSP
LASSO+	4MT	PRE	1.5	100	100
ATRAZINE	9-0		1.0		
LASSO+	4MT	PRE	2.0	100	100
ATRAZINE	9-0		1.0		
LASSO+	4MT	PRE	2.5	100	100
ATRAZINE	9-0		1.0		
DUAL+	8E	PRE	1.0	100	100
ATRAZINE	9-0		1.0		
DUAL+	8E	PRE	1.5	100	100
ATRAZINE	9-0		1.0		
DUAL+	8E	PRE	2.0	100	100
ATRAZINE	9-0		1.0		
RAMROD+	4L	PRE	4.0	100	100
BLADEX	4L		1.0		
DUAL+	8E	PRE	1.5	100	97
BLADEX	4L		1.0		
LASSO+	4MT	PRE	2.0	100	100
BLADEX	4L		1.0		
LASSO+	4L	PRE	2.0	100	100
LOROX	50DF		0.5		
DUAL+	8E	PRE	1.5	100	100
LOROX	50DF		0.5		
ATRAZINE	9-0	PRE	1.0	100	100
ATRAZINE	9-0	PRE	1.5	100	100
ATRAZINE	9-0	PRE	2.0	100	100
ATRAZINE+	9-0	PRE	0.75	97	100
BLADEX	4L		0.75		
ATRAZINE+	9-0	PRE	0.5	100	100
BLADEX	4L		1.0		

PREEMERGENCE/POSTEMERGENCE SORGHUM STUDY

BROWNSTOWN C-7S P.2

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (7/7)	
				GIFT	PWSP
LASSO+	4MT	PRE	2.0	100	100
MODOWN	4F		1.5		
BROMINAL	ME4	POST	0.38	100	100
BROMINAL+	ME4	POST	0.25	100	100
ATRAZINE	9-0		0.5		
BROMINAL+	ME4	POST	0.38	100	100
ATRAZINE	9-0		0.5		
BASAGRAN+	4S	POST	0.25	100	100
ATRAZINE+	9-0		0.5		
COC			1 QT		
2,4-D AMINE	3.8L	POST	0.38	100	100
UNTREATED CHECK				0	0

Exp. Title: INCORPORATION STUDY  
Researcher(s): KNAKE, HOOK, and PAUL Location: DEKALB  
Design: RCB Reps: 3 Trts: 3 X 15 Plot size: 10 ft X 40 ft

Soil Type(s): FLANAGAN SILT LOAM/DRUMMER SILTY CLAY LOAM  
Drainage: F (E-G-F-P) % O.M.: 5 pH: 6.2 % Slope:<1  
P test #/A: -- K test #/A: --

Fert # applied/A N: 180 P: 0 K: 0 Form: AMMONIUM NITRATE

Crop Current Crop: CORN Cultivar: PIONERR 3450 Previous Crop: SOYBEANS  
Planting Date: 05/13/86 Rate: 28,100 PPA Depth: 2.0 inches  
Row Spacing: 30 inches

Till\* Fall: NONE Spring: P, D/H, D/H  
Incorp Method: D/H Incorp Time: 1 hrs Incorp Depth: 2-4 inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PPI
	Date mm/dd/yy	5/13/86
	Time (24 hr clk)	930 to 1100
	Soil Temp F	--
	Soil Moist W-A-D	A
	Air Temp F	70
	% R.H.	40-50
	Wind spd/dir	10/E
	% overcast	100
	% residue	0
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	25
	Spray system **	TM
	Band width in.	--
	Nozzle type	FF 8004
	Nozzle ht. in	20
	Pressure lbs.	30
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

INCORPORATION STUDY

DEKALB

TREATMENT	FORM.	RATE LB AI/AC	APPL	% WEED CONTROL			% CORN INJURY
				GIFT	LGCG	RRPW	
SUTAN+	6.7E	4.0	SURF.	96	90	93	0
			1X	98	98	98	0
			2X	100	100	98	0
SUTAN+ ATRAZINE	6.7E 90DF	4.0 1.5	SURF.	98	98	93	0
			1X	98	98	100	0
			2X	98	98	100	0
SUTAN+	4S	4.0	SURF.	88	88	88	0
			1X	93	93	92	0
			2X	99	96	94	0
SUTAN+ ATRAZINE	4S 90DF	4.0 1.5	SURF.	98	98	100	0
			1X	93	93	100	0
			2X	98	98	100	0
ERADICANE	6.7E	4.0	SURF.	98	98	92	0
			1X	100	100	96	0
			2X	100	100	100	0
ERADICANE+ ATRAZINE	6.7E 90DF	4.0 1.5	SURF.	100	100	100	0
			1X	100	100	100	0
			2X	100	100	100	0
ERADICANE	3S	4.0	SURF.	98	98	95	0
			1X	100	100	100	0
			2X	100	100	100	0
ERADICANE+ ATRAZINE	3S 90DF	4.0 1.5	SURF.	100	100	100	0
			1X	100	100	100	0
			2X	100	100	100	0
MARATHON+ ATRAZINE	6E 90DF	4.0 1.5	SURF.	100	100	100	0
			1X	97	97	98	0
			2X	100	100	100	0
MARATHON+ ATRAZINE	6E 90DF	6.0 1.5	SURF.	100	100	100	2
			1X	100	100	100	2
			2X	100	100	100	2
ERADICANE IMPREGNATED FERTILIZER		4.0	SURF.	96	96	96	0
			1X	97	97	93	0
			2X	98	98	94	0

INCORPORATION STUDY

DEKALB P.2

TREATMENT	FORM.	RATE LB AI/AC	APPL	% WEED CONTROL			% CORN INJURY
				GIFT	LGCG	RRPW	
SUTAN+		4.0	SURF.	93	93	88	0
IMPREGNATED			1X	95	95	92	0
FERTILIZER			2X	93	93	88	0
ERADICANE + ATRAZINE		4.0+1.5	SURF.	98	100	100	0
IMPREGNATED			1X	100	100	100	0
FERTILIZER			2X	97	97	95	0
SUTAN+ + ATRAZINE		4.0+1.5	SURF.	98	97	100	0
IMPREGNATED			1X	97	98	99	0
FERTILIZER			2X	97	97	97	0
UNTREATED CHECK			SURF.	0	0	0	0
			1X	0	0	0	0
			2X	0	0	0	0

Notes: MARATHON = CYCLOATE+EXTENDER

Exp. Title: TANDEM STUDY  
 Researcher(s): KNAKE & PAUL Location: DEKALB Field: SW-800N  
 Design: RCB Reps: 3 Trts: 7 Plot size: 10 ft X 48 ft

Soil Type(s): DRUMMER SILTY CLAY LOAM  
 Drainage: F (E-G-F-P) % O.M.: 5 pH: 6.0 % Slope: <1  
 P test #/A: 53 K test #/A: 318

Fert # applied/A N: 240 P: 0 K: 0 Form: ANHYDROUS AMMONIA

Crop Current Crop: CORN Cultivar: PIONEER 3475 Previous Crop: SOYBEANS  
 Planting Date: 05/03/86 Rate: 28,100 PPA Depth: 2 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: P, D/H, D/H  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing \* EPO  
 Date mm/dd/yy 05/23/86  
 Time (24 hr clk) 1330 to 1430  
 Crop stage lf/in 3/4  
 Soil Temp F --  
 Soil Moist W-A-D A  
 Air Temp F 70  
 % R.H. 80  
 Wind spd/dir 0-3/E  
 % overcast 30  
 % residue --  
 Carrier type H<sub>2</sub>O  
 Carrier rate gpa 25  
 Spray system \*\* TM  
 Band width in. --  
 Nozzle type FF 8004  
 Nozzle ht. in 20  
 Pressure lbs. 30  
 Speed mph 3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

TANDEM STUDY

DEKALB SW-800

TREATMENT	FORM.	RATE LB AI/AC	PERCENT CONTROL					
			LIGHT INFESTATION			HEAVY INFESTATION		
			GIFT	COLQ	PESW	GIFT	COLQ	PESW
WEED-FREE CHECK			100	100	100	100	100	100
TANDEM ATRAZINE COC	4E 90DF	0.5 1.5 1QT	98	100	100	80	100	97
TANDEM BLADEX	4E 90DF	0.5 1.6	95	100	100	80	100	97
TANDEM ATRAZINE BLADEX	4E 90DF 90DF	0.5 0.8 0.8	96	100	100	80	100	97
ATRAZINE COC	90DF	2.0 1QT	92	100	100	57	100	97
BLADEX X-77	90DF	2.0 0.25%	97	100	100	77	97	90
WEEDY CHECK			0	0	0	0	0	0

Note: WEED-FREE CHECK INCLUDED LASSO AT 3.0 LB AI/AC PLUS ATRAZINE AT 2.0 LB AI/AC.

Exp. Title: EARLY PREPLANT TREATMENTS FOR NO-TILL CORN IN SOYBEAN STUBBLE  
Researcher(s): KNAKE, CURRAN, and PAUL Location: DEKALB Field: SW-800  
Design: RCB Reps: 4 Trts: 16 Plot size: 10 ft X 60 ft

Soil Type(s): DRUMMER SILTY CLAY LOAM  
Drainage: F (E-G-F-P) % O.M.: 5 pH: 6.0 % Slope: <1  
P test #/A: 53 K test #/A: 318

Fert # applied/A N: 240 P: 0 K: 0 Form: ANHYDROUS AMMONIA  
Current Crop: CORN Cultivar: PIONEER 3475 Previous Crop: SOYBEANS  
Planting Date: 05/03/86 Rate: 28,100 PPA Depth: 2 inches  
Row Spacing: 30 inches

Till\* Fall: NONE Spring: ON SELECTED PLOTS ONLY-- P, D/H, D/H  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	EPP
	Date mm/dd/yy	4/24/86
	Time (24 hr clk)	730 to 900
	Crop stage lf/in	--
	Soil Temp F	52
	Soil Moist W-A-D	A
	Air Temp F	50-60
	% R.H.	25
	Wind spd/dir	10-15/S
	% overcast	0
	% residue	25
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	25
	Spray system **	TM
	Band width in.	--
	Nozzle type	FF 8004
	Nozzle ht. in	19
	Pressure lbs.	28
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Notes: ERADICANE TREATMENTS WERE INCORPORATED IMMEDIATELY AFTER APPLICATION

EARLY PREPLANT TREATMENTS FOR NO-TILL CORN IN SOYBEAN STUBBLE DEKALB SW-800 P.1

TREATMENT	FORM.	RATE LB AI/AC	% WEED CONTROL (06/05)						CORN HT. IN.	CORN PLANTS/A (1000's)
			PESW	COLQ	GIFT	YEFT	RRPW	VELE		
ATRAZINE	90DF	3	100	100	100	100	100	98	103	30
BLADEX	90DF	4	100	100	100	100	100	100	103	25
ATRAZINE	90DF	2	100	100	100	100	100	95	103	27
BLADEX	90DF	2								
ATRAZINE	90DF	1.5	100	100	100	100	100	100	103	26
BLADEX	90DF	3								
ATRAZINE	90DF	2	100	100	100	100	100	92	103	29
DUAL	8E	2								
BLADEX	90DF	3	100	100	100	100	100	99	102	28
DUAL	8E	2								
ATRAZINE	90DF	1.5	100	100	100	100	100	95	103	25
BLADEX	90DF	1.5								
DUAL	8E	1.5								
ATRAZINE	90DF	2	100	100	100	100	100	97	103	29
LASSO	4MT	2.5								
ATRAZINE	90DF	2	100	100	100	100	100	95	103	27
LASSO	4MT	2.5								
ROUNDUP	4AS	0.5								
ATRAZINE	90DF	2	100	100	100	100	100	94	103	29
DUAL	8E	2								
IGNITE	1.67L	0.5								
ATRAZINE	90DF	2	100	100	100	100	100	96	102	27
DUAL	8E	2								
GRAMOXONE	2L	0.5								
ERADICANE	6E	4	100	100	100	100	98	97	103	28
ATRAZINE	90DF	2								
ERADICANE	6E	4	100	100	100	100	100	100	103	27
ATRAZINE	90DF	2								
2,4-D ESTER	3.8EC	0.5	100	100	100	100	100	99	103	27
ATRAZINE	90DF	2								
BLADEX	90DF	2								

EARLY PREPLANT TREATMENTS FOR NO-TILL CORN IN SOYBEAN STUBBLE DEKALB SW-800 P.2

TREATMENT	FORM.	RATE		% WEED CONTROL (06/05)						CORN HT. IN.	CORN PLANTS/A (1000'S)
		LB	AI/AC	PESW	COLQ	GIFT	YEFT	RRPW	VELE		
BANVEL	4L		0.25	100	100	100	100	100	94	103	29
ATRAZINE	90DF		2								
BLADEX	90DF		2								
CHECK				0	0	0	0	0	0	102	26

Exp. Title: CORN IN RED CLOVER & ALFALFA SOD  
 Researcher(s): KNAKE, CURRAN, and PAUL Location: DEKALB Field: SW-600  
 Design: RCB Reps: 4 Trts: 11 Plot size: 10 ft X 50 ft

Soil Type(s): DRUMMER SILTY CLAY LOAM  
 Drainage: P (E-G-F-P) % O.M.: 5 pH: -- % Slope: <1  
 P test #/A: -- K test #/A: --

Fert # applied/A N: 180 P: 0 K: 0 Form: AMMONIUM NITRATE

Crop Current Crop: CORN Cultivar: PIONEER 3540 Previous Crop: ALF/CLOVER  
 Planting Date: 05/03/86 Rate: 28,100 PPA Depth: 2 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: SELECTED PLOTS ONLY-- P,D/H,D/H  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	KND-PRE	POST
Date mm/dd/yy		4/23/86	05-23-86
Time (24 hr clk)		1130 to 1530	1130 to 1145
Crop stage lf/in		0/0	4/4
Soil Temp F		50	60
Soil Moist W-A-D		A	A
Air Temp F		60	65
% R.H.		25	70
Wind spd/dir		5/W	5/E
% overcast		0	10
% residue		100	--
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		25	25
Spray system **		TM	TM
Band width in.		--	--
Nozzle type		FF 8004	FF 8004
Nozzle ht. in		19	19
Pressure lbs.		28	30
Speed mph		3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Notes: ALFALFA--GOOD STAND, ACTIVELY GROWING, WILTED ONE DAY AFTER SPRAYING  
 WITH BANVEL; CLOVER--GREEN, ACTIVELY GROWING; ALL TREATMENTS APPLIED ON  
 04/23/86 EXCEPT THOSE INCLUDING TILLAGE. TREATMENTS HAVING TILLAGE WERE  
 APPLIED THE FOLLOWING MORNING AFTER DISKING TWICE.

CORN IN RED CLOVER SOD

DEKALB SW-600

TREATMENT	APPL.	RATE LB AI/AC	% CONTROL				CORN HT. (IN)	CORN PLANTS/A (1000'S)
			RED CLOVER	CODA	ANNUAL GRASSES	ANNUAL BDLVS.		
ATRAZINE 90DF	KND/PRE	3.0	100	0	100	100	47	22.7
BLADEX 90DF	KND/PRE	4.0	100	0	100	100	47	24.4
TILLAGE*								
ATRAZINE 90DF+	KND/PRE	1.5	100	100	100	100	56	27.9
BLADEX 90DF+		1.5						
DUAL 8E		1.5						
ATRAZINE 90DF+	KND/PRE	1.5	100	0	100	100	49	23.5
BLADEX 90DF+		1.5						
DUAL 8E+		1.5						
ATRAZINE 90DF+	KND/PRE	2.0	100	0	100	100	49	21.8
BLADEX 90DF		2.0						
ATRAZINE 90DF+	KND/PRE	1.5	100	0	100	100	49	24.8
BLADEX 90DF		3.0						
ATRAZINE 90DF+	KND/PRE	3.0	100	0	100	100	48	23.5
DUAL 8E		2.0						
ATRAZINE 90DF+	KND/PRE	3.0	100	0	100	100	50	21.3
LASSO 4MT		2.5						
ATRAZINE 90DF+	KND/PRE	3.0	100	0	100	100	48	23.5
PROWL 4EC		1.0						
BANVEL 4S/ BANVEL 4S	KND/PRE POST	0.5 0.5	100	90	99	100	52	20.5
BANVEL 4S+ DUAL 8E/ BANVEL 4S	KND/PRE POST	0.5 2.0 0.5	100	90	100	100	53	24.4

Note: KND/PRE TREATMENTS ARE PREEMERGENCE TO THE CROP BUT POSTEMERGENCE TO THE STANDING FORAGE.

\* = FALL MOLDBOARD PLOW, SPRING DISKING 2X.

CORN IN ALFALFA SOD

DEKALB SW-600

TREATMENT	APPL.	RATE LB AI/AC	% CONTROL				CORN HT. (IN)	CORN PLANTS/A (1000'S)
			ALFALFA	CODA	ANNUAL GRASSES	ANNUAL BDLVS.		
BANVEL 4S+ 2,4-D* 3.8EC+ DUAL 8E	KND/PRE	0.5 0.5 2.0	100	90	100	100	51	20.9
BANVEL 4S+ 2,4-D* 3.8EC	KND/PRE	0.5 0.5	100	88	100	99	49	23.2
TILLAGE** BANVEL 4S+ DUAL 8E/ BANVEL 4S	KND/PRE POST	0.25 2.0 0.5	100	100	100	100	54	27.0
BANVEL 4S+ DUAL 8E/ BANVEL 4S	KND/PRE POST	0.25 2.0 0.5	100	80	100	100	48	23.2
BANVEL 4S/ BANVEL 4S	KND/PRE POST	0.25 0.5	100	80	100	100	47	19.7
BANVEL 4S+ DUAL 8E/ MARKSMAN 3.2L	KND/PRE POST	0.25 2.0 1.2	100	80	100	100	48	20.9
BANVEL 4L/ MARKSMAN 3.2L	KND/PRE POST	0.25 1.2	100	80	100	100	47	20.6
MARKSMAN 3.2L DUAL 8E	KND/PRE	1.2 2.0	100	80	100	100	52	22.7
ROUNDUP 4L+ LASSO 4MT+ ATRAZINE 90DF	KND/PRE	2.0 2.0 2.0	50	90	100	100	47	21.8
2,4-D* 3.8EC DUAL 8E ATRAZINE 90DF	KND/PRE	1.0 2.0 2.0	100	99	100	100	51	22.7
BRONCO 4L+ ATRAZINE 90DF	KND/PRE	5.00 2.0	50	90	100	100	49	26.1

Note: KND/PRE TREATMENTS ARE PREEMERGENCE TO THE CROP BUT POSTEMERGENCE TO THE STANDING FORAGE.

\* = BUTOXYETHYL ESTER FORMULATION

\*\* = FALL MOLDBOARD PLOW, SPRING DISK 2X

Exp. Title: SOYBEAN POSTEMERGENCE STUDY  
 Researcher(s): KNAKE and PAUL Location: DEKALB Field: SW-900N  
 Design: RCB Reps: 4 Trts: 6 Plot size: 10 ft X 58 ft

Soil Type(s): DRUMMER SILTY CLAY LOAM/FLANAGAN SILT LOAM  
 Drainage: F-P (E-G-F-P) % O.M.: 5 pH: 6.0 % Slope: <1  
 P test #/A: -- K test #/A: --

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: BSR-201 Previous Crop: CORN  
 Planting Date: 05/07/86 Rate: 55#/AC Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: C, D, F/H  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing \* EPO  
 Date mm/dd/yy 6/05/86  
 Time (24 hr clk) 900 to 930  
 Crop stage lf/in 1/3  
 Soil Temp F --  
 Soil Moist W-A-D A  
 Air Temp F 65  
 % R.H. 70  
 Wind spd/dir 5/E  
 % overcast 0  
 % residue --  
 Carrier type H<sub>2</sub>O  
 Carrier rate gpa 25  
 Spray system \*\* TM  
 Band width in. --  
 Nozzle type FF 8004  
 Nozzle ht. in 20  
 Pressure lbs. 30  
 Speed mph 3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: EPO

Species VELE  
Stage: lf/in 2/1.5  
Density: #/sq ft --

Species GIFT  
Stage: lf/in 3/1.5  
Density: #/sq ft --

SOYBEAN POSTEMERGENCE STUDY

DEKALB SW-900N

TREATMENT	FORM.	RATE LB AI/AC	(6/12) PERCENT CROP INJURY	(6/12) PERCENT VELE CONTROL
BASAGRAN 28% N	4S	1.0 1 GAL	2	93
BLAZER 10-34-0	2L	0.5 1 QT.	10	84
TACKLE X-77	2AS	0.5 0.25%	10	65
COBRA X-77	2EC	0.2 0.25%	15	92
REFLEX COC	2E	0.2 1 QT.	10	80
UNTREATED CHECK			0	0

Exp. Title: COBRA POSTEMERGENCE ON SOYBEANS  
Researcher(s): KNAKE and PAUL Location: DEKALB Field: 1400N(E)  
Design: RCB Reps: 3 Trts: 6 Plot size: 5 ft X 35 ft

Soil Type(s): DRUMMER SILTY CLAY LOAM  
Drainage: P (E-G-F-P) % O.M.: 5.0 pH: 5.9 % Slope: <1  
P test #/A: 43 K test #/A: 300

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: BSR-201 Previous Crop: ALFALFA  
Planting Date: 05-08-86 Rate: 55#/AC Depth: 1.5 inches  
Row Spacing: 30 inches

Till\* Fall: PLOW Spring: F, D/H, D/H  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing \* EPO  
Date mm/dd/yy 06/06/86  
Time (24 hr clk) 800 to 900  
Crop stage lf/in 1/3  
Soil Temp F --  
Soil Moist W-A-D A  
Air Temp F 65  
% R.H. 90-100  
Wind spd/dir 5/NE  
% overcast 100  
% residue 0  
Carrier type H<sub>2</sub>O  
Carrier rate gpa 25  
Spray system \*\* 0-0SU  
Band width in. --  
Nozzle type FF 8004  
Nozzle ht. in 20  
Pressure lbs. 30  
Speed mph 3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	EPO
Species	RRPW
Stage: lf/in	5/1
Density: #/sq ft	--
Species	PRPW
Stage: lf/in	4/0.5
Density: #/sq ft	--
Species	COLQ
Stage: lf/in	6/1
Density: #/sq ft	--

Notes: FUSILADE 2000 WAS APPLIED EPO TO ALL PLOTS AT A RATE OF 0.2 LBS AI/AC ON  
06-04-86 TO CONTROL GRASSY WEEDS.

COBRA POSTEMERGENCE ON SOYBEANS

DEKALB 1400N(E)

TREATMENT	RATE LB AI/AC	% SB INJURY		SB HEIGHT (IN)		% RRPW CTROL.	
		(6/11)	(6/20)	(6/11)	(6/20)	(6/11)	(6/20)
COBRA 2EC	0.2	20	5	6.0	8.0	100	100
COBRA 2EC+ X-77	0.2 0.25%	20	10	6.0	7.0	100	100
COBRA 2EC+ COC	0.2 1 PT	25	10	5.0	7.0	100	100
COBRA 2EC+ BASAGRAN 4S+ COC	0.15 0.5 1 PT	28	8	4.25	7.3	100	100
COBRA 2EC+ 2,4-DB	0.2 0.03	30	10	4.0	7.0	100	100
COBRA 2EC+ 10-34-0	0.2 1 QT	20	6.7	6.0	7.7	99	100

Notes: FOR GRASS CONTROL, ALL PLOTS RECEIVED FUSILADE 1E AT 0.2 LBS AI/AC. ALL POSTEMERGENCE TREATMENTS APPLIED EARLY POSTEMERGENCE (EPO).

Exp. Title: WEED CONTROL FOR NO-TILL DRILLED SOYBEANS  
 Researcher(s): KNAKE, PAUL, and CURRAN Location: DEKALB Field: S-1200  
 Design: RCB Reps: 3 Trts: 13 Plot size: 10 ft X 40 ft

Soil Type(s): DRUMMER SILTY CLAY LOAM/FLANAGAN SILT LOAM  
 Drainage: F-P (E-G-F-P) % O.M.: 5 pH: 6.1 % Slope: <1  
 P test #/A: 42 K test #/A: 240

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: BSR-201 Previous Crop: SOYBEANS  
 Planting Date: 05-31-86 Rate: 80-90#/AC Depth: 1.5 inches  
 Row Spacing: 10 inches

Till\* Fall: NONE Spring: NONE  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	KND/PRE
	Date mm/dd/yy	05/23/86
	Time (24 hr clk)	930 to 1030
	Crop stage lf/in	--
	Soil Temp F	--
	Soil Moist W-A-D	A
	Air Temp F	65
	% R.H.	--
	Wind spd/dir	5/E
	% overcast	15
	% residue	--
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	25
	Spray system **	TM
	Band width in.	--
	Nozzle type	FF 8004
	Nozzle ht. in	20
	Pressure lbs.	30
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: KND/PRE

Species GIFT  
Stage: lf/in 3/3.5  
Density: #/sq ft --

Species COLQ  
Stage: lf/in 15/2.5  
Density: #/sq ft --

Species VELE  
Stage: lf/in 2/2  
Density: #/sq ft --

Species PESW  
Stage: lf/in 10/6.5  
Density: #/sq ft --

Notes: OTHER WEEDS PRESENT INCLUDED: DANDELION, HORSEWEED, WILD LETTUCE,  
SHEPHERDSPURSE, EASTERN BLACK NIGHTSHADE, FIELD PEPPERWEED, AND  
YELLOW WOOD SORREL.

## WEED CONTROL FOR NO-TILL DRILLED SOYBEANS

DEKALB S-1200

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/11)	
				ANNUAL GRASS	PERENNIAL BDLVS
UNTREATED CHECK				0	0
ROUNDUP+ X-77	4L	KND	0.5 1.0%	98	60
IGNITE+ X-77	1.67AS	KND	0.5 1.0%	100	100
GRAMOXONE+ X-77	2L	KND	0.5 0.25%	93	63
LOROX+ WK SURF.	50DF	KND	1.0 0.5%	98	50
POAST+ COC	1.5EC	KND	0.25 1 QT	96	50
FUSILADE-P+ COC	1E	KND	0.25 1 QT	98	47
ASSURE+ COC	0.8EC	KND	0.125 1 QT	100	50
VERDICT+ COC	2EC	KND	0.125 1 QT	100	50
WHIP+ COC	1E	KND	0.125 1 QT	100	50
SELECT+ COC	2EC	KND	0.125 1 QT	97	50
BAS-517H+ COC	1.67EC	KND	0.125 1 QT	100	50
DPX-Y6202-31	0.8EC	KND	0.063	87	50

Note: ALL PLOTS RECEIVED A PREEMERGENCE APPLICATION OF METRIBUZIN AT 0.5 LBS AI/AC PLUS DUAL 8E AT 2.5 LBS AI/AC.

EXP. Title: SOYBEANS AFTER ALFALFA AND CLOVER TREATED IN FALL  
 Researcher(s): KNAKE, CURRAN, and PAUL Location: DEKALB Field: SW-500  
 Design: RCB Reps: 3 Trts: 5 Plot size: 10 ft X 40 ft

Soil Type(s): FLANAGAN SILT LOAM/DRUMMER SILTY CLAY LOAM  
 Drainage: G (E-G-F-P) % O.M.: 5 pH: 6.1 % Slope: <1  
 P test #/A: 71 K test #/A: 330

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: BSR 201 Previous Crop: ALF/CLOVER  
 Planting Date: 05/07/86 Rate: 55#/A Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: NONE  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PRE	KND
Date mm/dd/yy		4/23/86	9/27/85
Time (24 hr clk)		1130 to 1200	1300 to 1400
Crop stage lf/in		0/0	MATURE
Soil Temp F		50	64
Soil Moist W-A-D		A	W-A
Air Temp F		55	60
% R.H.		25	50
Wind spd/dir		10-15/W	0/0
% overcast		0	30
% residue		25	--
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		25	25
Spray system **		TM	TM
Band width in.		--	--
Nozzle type		FF 8004	FF 8004
Nozzle ht. in		19	20
Pressure lbs.		28	30
Speed mph		3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Notes: CLOVER AND ALFALFA WERE ALL DEAD FROM LAST FALL'S TREATMENTS

SOYBEANS AFTER ALFALFA AND CLOVER TREATED IN FALL

DEKALB SW-500

TREATMENT	FORM.	RATE LB AI/AC	% SOYBEAN INJURY	% CONTROL	
				ALFALFA	RED CLOVER
BANVEL	4S	0.5	10	100	100
BANVEL	4S	1.0	15	100	100
BANVEL	4S	2.0	20	100	100
2,4-D ESTER	3.8EC	1.0	10	100	100
BANVEL+	4L	0.5	10	100	100
2,4-D ESTER	3.8EC	0.5			

Note: ALL PLOTS RECEIVED A SPRING-APPLIED PREEMERGENCE APPLICATION OF DUAL 8E AT 2.0 LBS AI/AC AND METRIBUZIN AT 0.5 LBS AI/AC ON 4/23/86.

Exp. Title: SOYBEANS IN GRASS SOD  
 Researcher(s): KNAKE, CURRAN, and PAUL Location: DEKALB Field: SW-500  
 Design: RCB Reps: 3 Trts: 5 Plot size: 10 ft X 40 ft

Soil Type(s): FLANAGAN SILT LOAM/DRUMMER SILTY CLAY LOAM  
 Drainage: G (E-G-F-P) % O.M.: 5 pH: 6.1 % Slope: <1  
 P test #/A: 71 K test #/A: 330

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: BSR 201 Previous Crop: PER. GRASSES  
 Planting Date: 05/05/86 Rate: 55#/AC Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: NONE  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: --  
 inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

APPL. METHOD *	KND-PRE
Date mm/dd/yy	4/23/86
Time (24 hr clk)	1100 to 1130
Crop stage lf/in	--
Soil Temp F	50
Soil Moist W-A-D	A
Air Temp F	55
% R.H.	25
Wind spd/dir	10-15/SW
% overcast	0
% residue	100
Carrier type	H <sub>2</sub> O
Carrier rate gpa	25
Spray system **	TM
Band width in.	--
Nozzle type	FF 8004
Nozzle ht. in	19
Pressure lbs.	28
Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

SOYBEANS IN GRASS SOD

DEKALB SW-500

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% CONTROL (6/24)		
				TIMOTHY	BROMEGRASS	ORCHARDGRASS
ROUNDUP	4L	KND	2.0	90	50	90
IGNITE	1.67AS	KND	2.0	50	20	30
VERDICT	2EC	KND	0.4	100	100	100
ASSURE	0.8EC	KND	0.4	90	60	90
BAS-517 H	1.67EC	KND	0.4	90	50	100

Note: ALL PLOTS HAD PREEMERGENCE-APPLIED DUAL 8E AT 2.0 LBS AI/AC AND METRIBUZIN AT 0.5 LBS AI/AC ON 4/23/86.

Exp. Title: CONTROL OF COMMON LAMBSQUARTERS IN SOYBEANS  
 Researcher(s): KNAKE, CURRAN, and PAUL Location: DEKALB Field: 1400N(W)  
 Design: RCB Reps: 3 Trts: 96 Plot size: 10 ft X 10 ft

Soil Type(s): DRUMMER SILTY CLAY LOAM  
 Drainage: F (E-G-F-P) % O.M.: 5 pH: 6.0 % Slope: <1  
 P test #/A: -- K test #/A: --

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEAN Cultivar: BSR-201 Previous Crop: SOYBEANS  
 Planting Date: 05/07/86 Rate: 55#/AC Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: D/H, D/H  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PRE	POST
Date mm/dd/yy		5/7/86	06/03/86
Time (24 hr clk)		1030 to 1200	730 to 830
Crop stage lf/in		--	1/3
Soil Temp F		60-62	64-68
Soil Moist W-A-D		--	--
Air Temp F		50-77	60
% R.H.		40-50	60
Wind spd/dir		0-2/S	5/E
% overcast		10	0
% residue		--	--
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		25	25
Spray system **		TM	TM
Band width in.		--	--
Nozzle type		FF 8004	FF 8004
Nozzle ht. in		20	20
Pressure lbs.		30	30
Speed mph		3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Note: AT THE TIME OF POSTEMERGENCE APPLICATION, COMMON LAMBSQUARTERS HAD FOUR  
 TRUE LEAVES AND AVERAGED ONE INCH IN HEIGHT

CONTROL OF COMMON LAMBSQUARTERS IN SOYBEANS

DEKALB 1400N(W)

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% COLQ CONTROL
AMIBEN	75DS	PRE	2.0	90
AMIBEN+	75DS	PRE	2.0	97
CINCH	7EC		1.5	
AMIBEN+	75DS	PRE	2.0	100
LASSO	4MT		3.0	
AMIBEN+	75DS	PRE	2.0	97
DUAL	8E		2.5	
AMIBEN/ POAST+	75DS	PRE	2.0	90
AMM. SULFATE	1.5EC	POST	0.1875 2.5	
AMIBEN/ FUSILADE+	75DS	PRE	2.0	90
COC	1E	POST	0.1875 1 QT	
AMIBEN/ ASSURE+	75DS	PRE	2.0	90
COC	0.8EC	POST	0.125 1 QT	
AMIBEN/ VERDICT+	75DS	PRE	2.0	90
COC	2E	POST	0.125 1 QT	
METRIBUZIN	75DF	PRE	0.38	100
METRIBUZIN+	75DF	PRE	0.38	97
CINCH	7EC		1.5	
METRIBUZIN+	75DF	PRE	0.38	100
LASSO	4MT		3.0	
METRIBUZIN+	75DF	PRE	0.38	97
DUAL	8E		2.5	
METRIBUZIN/ POAST+	75DF	PRE	0.38	100
AMM. SULFATE	1.5EC	POST	0.1875 2.5	
METRIBUZIN/ FUSILADE+	75DF	PRE	0.38	100
COC	1E	POST	0.1875 1 QT	

CONTROL OF COMMON LAMBSQUARTERS IN SOYBEANS

DEKALB 1400N(W) P.2

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% COLQ CONTROL
METRIBUZIN/ ASSURE+ COC	75DF 0.8EC	PRE POST	0.38 0.125 1 QT	100
METRIBUZIN VERDICT+ COC	75DF 2E	PRE POST	0.38 0.125 1 QT	97
COMMAND	6E	PRE	1.0	100
COMMAND+ CINCH	6E 7EC	PRE	1.0 1.5	97
COMMAND+ LASSO	6E 4MT	PRE	1.0 3.0	100
COMMAND+ DUAL	6E 8E	PRE	1.0 2.5	97
COMMAND/ POAST+ AMM. SULFATE	6E 1.5EC	PRE POST	1.0 0.1875 2.5	100
COMMAND/ FUSILADE+ COC	6E 1E	PRE POST	1.0 0.1875 1 QT	100
COMMAND/ ASSURE+ COC	6E 0.8EC	PRE POST	1.0 0.125 1 QT	100
COMMAND/ VERDICT+ COC	6E 2E	PRE POST	1.0 0.125 1 QT	97
SCEPTER	1.5AS	PRE	0.125	100
SCEPTER+ CINCH	1.5AS 7EC	PRE	0.125 1.5	100
SCEPTER+ LASSO	1.5AS 4MT	PRE	0.125 3.0	100
SCEPTER+ DUAL	1.5AS 8E	PRE	0.125 2.5	97

CONTROL OF COMMON LAMBSQUARTERS IN SOYBEANS

DEKALB 1400N(W) P.3

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% COLQ CONTROL
SCEPTER/ POAST+ AMM. SULFATE	1.5AS 1.5EC	PRE POST	0.125 0.1875 2.5	100
SCEPTER/ FUSILADE+ COC	1.5AS 1E	PRE POST	0.125 0.1875 1 QT	100
SCEPTER/ ASSURE+ COC	1.5AS 0.8EC	PRE POST	0.125 0.125 1 QT	100
SCEPTER/ VERDICT+ COC	1.5AS 2EC	PRE POST	0.125 0.125 1 QT	100
UNTREATED CHECK				0
CINCH	7EC	PRE	1.5	73
CINCH/ BASAGRAN+ COC	7EC 4S	PRE POST	1.5 1.0 1 QT	97
CINCH/ BASAGRAN+ 28% N	7EC 4S	PRE POST	1.5 1.0 1 GAL	93
CINCH/ BLAZER+ TRITON AG-98	7EC 2L	PRE POST	1.5 0.5 0.125%	93
CINCH/ BLAZER+ 10-34-0	7EC 2L	PRE POST	1.5 0.5 1 QT	93
CINCH/ BASAGRAN+ BLAZER+ TRITON AG-98	7EC 4S 2L	PRE POST	1.5 0.5 0.38 0.125%	98
CINCH/ AMIBEN+ 2,4-DB	7EC 75DS 2L	PRE POST	1.5 2.0 0.03	82

CONTROL OF COMMON LAMBSQUARTERS IN SOYBEANS

DEKALB 1400N(W) P.4

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% COLQ CONTROL
CINCH/ CLASSIC+ X-77	7EC 25DG	PRE POST	1.5 0.19 OZ 0.25%	85
LASSO	4MT	PRE	3.0	82
LASSO/ BASAGRAN+ COC	4MT 4S	PRE POST	3.0 1.0 1 QT	100
LASSO/ BASAGRAN+ 28% N	4MT 4S	PRE POST	3.0 1.0 1 GAL	97
LASSO/ BLAZER+ TRITON AG-98	4MT 2L	PRE POST	3.0 0.5 0.125%	98
LASSO/ BLAZER+ 10-34-0	4MT 2L	PRE POST	3.0 0.5 1 QT	97
LASSO/ BASAGRAN+ BLAZER+ TRITON AG-98	4MT 4S 2L	PRE POST	3.0 0.5 0.38 0.125%	100
LASSO/ AMIBEN+ 2,4-DB	4MT 75DS 2L	PRE POST	3.0 2.0 0.03	80
LASSO/ CLASSIC+ X-77	4MT 25DG	PRE POST	3.0 0.19 OZ 0.25%	80
DUAL	8E	PRE	2.5	67
DUAL/ BASAGRAN+ COC	8E 4S	PRE POST	2.5 1.0 1 QT	97
DUAL/ BASAGRAN+ 28% N	8E 4S	PRE POST	2.5 1.0 1 GAL	92

CONTROL OF COMMON LAMBSQUARTERS IN SOYBEANS

DEKALB 1400N(W) P.5

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% COLQ CONTROL
DUAL/ BLAZER+ TRITON AG-98	8E 2L	PRE POST	2.5 0.5 0.125%	91
DUAL/ BLAZER+ 10-34-0	8E 2L	PRE POST	2.5 0.5 1 QT	91
DUAL/ BASAGRAN+ BLAZER+ TRITON AG-98	8E 4S 2L	PRE POST	2.5 0.5 0.38 0.125%	99
DUAL/ AMIBEN+ 2,4-DB	8E 75DS 2L	PRE POST	2.5 2.0 0.03	77
DUAL/ CLASSIC X-77	8E 25DG	PRE POST	2.5 0.19 OZ 0.25%	77
BASAGRAN+ COC	4S	POST	1.0 1 QT	90
BASAGRAN+ COC/ POAST+ AMM. SULFATE	4S 1.5L	POST POST	1.0 1 QT 0.1875 2.5	98
BASAGRAN+ COC/ FUSILADE+ COC	4S 1L	POST POST	1.0 1 QT 0.1875 1 QT	98
BASAGRAN+ COC/ ASSURE+ COC	4S 0.8EC	POST POST	1.0 1 QT 0.125 1 QT	98
BASAGRAN+ COC/ VERDICT+ COC	4S 2L	POST POST	1.0 1 QT 0.125 1 QT	98
BASAGRAN+ 28% N	4S	POST	1.0 1 GAL	77

CONTROL OF COMMON LAMBSQUARTERS IN SOYBEANS

DEKALB 1400N(W) P.6

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% COLQ CONTROL
BASAGRAN+ 28% N/ POAST+ AMM. SULFATE	4S 1.5EC	POST POST	1.0 1 GAL 0.1875 2.5	82
BASAGRAN+ 28% N/ FUSILADE+ COC	4S 1E	POST POST	1.0 1 GAL 0.1875 1 QT	92
BASAGRAN+ 28% N/ ASSURE+ COC	4S 0.8EC	POST POST	1.0 1 GAL 0.125 1 QT	92
BASAGRAN+ 28% N/ VERDICT+ COC	4S 2E	POST POST	1.0 1 GAL 0.125 1 QT	92
BLAZER+ TRITON AG-98	2L	POST	0.5 0.125%	77
BLAZER+ TRITON AG-98/ POAST+ AMM. SULFATE	2L 1.5L	POST POST	0.5 0.125% 0.1875 2.5	82
BLAZER+ TRITON AG-98/ FUSILADE+ COC	2L 1L	POST POST	0.5 0.125% 0.1875 1 QT	92
BLAZER+ TRITON AG-98/ ASSURE+ COC	2L 0.8EC	POST POST	0.5 0.125% 0.125 1 QT	92
BLAZER+ TRITON AG-98/ VERDICT+ COC	2L 2E	POST POST	0.5 0.125% 0.125 1 QT	92
BLAZER+ 10-34-0	2L	POST	0.5 1 QT	77

## CONTROL OF COMMON LAMBSQUARTERS IN SOYBEANS

DEKALB 1400N(W) P.7

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% COLQ CONTROL
BLAZER+ 10-34-0/ POAST+ AMM. SULFATE	2L 1.5EC	POST POST	0.5 1 QT 0.1875 2.5	82
BLAZER+ 10-34-0/ FUSILADE+ COC	2L 1E	POST POST	0.5 1 QT 0.1875 1 QT	92
BLAZER+ 10-34-0/ ASSURE+ COC	2L 0.8EC	POST POST	0.5 1 QT 0.125 1 QT	92
BLAZER+ 10-34-0/ VERDICT+ COC	2L 2EC	POST POST	0.5 1 QT 0.125 1 QT	92
BASAGRAN+ BLAZER+ TRITON AG-98	4S 2L	POST	0.5 0.38 0.125%	90
BASAGRAN+ BLAZER+ TRITON AG-98/ POAST+ AMM. SULFATE	4S 2L 1.5EC	POST POST	0.5 0.38 0.125% 0.1875 2.5	90
BASAGRAN+ BLAZER+ TRITON AG-98/ FUSILADE-P+ COC	4S 2L 1E	POST POST	0.5 0.38 0.125% 0.1875 1 QT	90
BASAGRAN+ BLAZER+ TRITON AG-98/ ASSURE+ COC	4S 2L 0.8EC	POST POST	0.5 0.38 0.125% 0.125 1 QT	90
BASAGRAN+ BLAZER+ TRITON AG-98 VERDICT+ COC	4S 2L 2EC	POST POST	0.5 0.38 0.125 0.125 1 QT	90

CONTROL OF COMMON LAMBSQUARTERS IN SOYBEANS

DEKALB 1400N(W) P. 8

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% COLQ CONTROL
AMIBEN+ 2,4-DB	75DS 2L	POST	2.0 0.03	50
AMIBEN+ 2,4-DB/ POAST+ AMM. SULFATE	75DS 2L 1.5EC	POST POST	2.0 0.03 0.1875 2.5	50
AMIBEN+ 2,4-DB/ FUSILADE+ COC	75DS 2L 1E	POST POST	2.0 0.03 0.1875 1 QT	50
AMIBEN+ 2,4-DB/ ASSURE+ COC	75DS 2L 0.8EC	POST POST	2.0 0.03 0.125 1 QT	50
AMIBEN+ 2,4-DB/ VERDICT+ COC	75DS 2L 2EC	POST POST	2.0 0.03 0.125 1 QT	50
CLASSIC+ X-77	25DG	POST	0.19 OZ 0.25%	50
CLASSIC+ X-77/ POAST+ AMM. SULFATE	25DG 1.5EC	POST POST	0.19 OZ 0.25% 0.1875 2.5	50
CLASSIC+ X-77/ FUSILADE+ COC	25DG 1E	POST POST	0.19 OZ 0.25% 0.1875 1 QT	50
CLASSIC+ X-77/ ASSURE+ COC	25DG 0.8EC	POST POST	0.19 OZ 0.25% 0.125 1 QT	50
CLASSIC+ X-77/ VERDICT+ COC	25DG 2EC	POST POST	0.19 OZ 0.25% 0.125 1 QT	50

CONTROL OF COMMON LAMBSQUARTERS IN SOYBEANS

DEKALB 1400N(W) P.9

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% COLQ CONTROL
POAST+ AMM. SULFATE	1.5EC	POST	0.1875 2.5	0
FUSILADE+ COC	1E	POST	0.1875 1 QT	0
ASSURE+ COC	0.8EC	POST	0.125 1 QT	0
VERDICT+ COC	2EC	POST	0.125 1 QT	0

Exp. Title: EFFECT OF SOYBEAN HERBICIDE RESIDUES ON CORN  
Researcher(s): CURRAN, KNAKE, and PAUL Location: DEKALB Field: 1300  
Design: RCB Reps: 4 Trts: 13 Plot size: 10 ft X 75 ft

Soil Type(s): HARPSTER SILTY CLAY LOAM/DRUMMER SILTY CLAY LOAM  
Drainage: P (E-G-F-P) % O.M.: 5 pH: 7.2 % Slope: <1  
P test #/A: 32 K test #/A: 279

Fert # applied/A N: 180 P: 0 K: 0 Form: AMMONIUM NITRATE

Crop Current Crop: CORN Cultivar: PIONEER 3540 Previous Crop: SOYBEANS  
Planting Date: 05-07-86 Rate: 28,100 PPA Depth: 2.0 inches  
Row Spacing: 30 inches

Till\* Fall: NONE Spring: NONE  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PRE
	Date mm/dd/yy	05/07/86
	Time (24 hr clk)	830 to 1015
	Crop stage lf/in	--
	Soil Temp F	55-60
	Soil Moist W-A-D	A
	Air Temp F	65-70
	% R.H.	40-50
	Wind spd/dir	1/S
	% overcast	10
	% residue	30
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	25
	Spray system **	TM
	Band width in.	--
	Nozzle type	FF 8004
	Nozzle ht. in	20
	Pressure lbs.	30
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

E \*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

EFFECT OF SOYBEAN HERBICIDE RESIDUES ON CORN

DEKALB 1300

1985 TREATMENT	RATE LB AI/AC	(6/26) HEIGHT OF CORN IN INCHES		(6/26) CORN PLANTS/AC
		FREE STANDING	LEAF EXTENDED	(THOUSANDS)
COMMAND 6EC	0.75	31	41	24.0
COMMAND 6EC	1.00	33	46	24.4
COMMAND 6EC	1.50	32	43	24.4
COMMAND 6EC	2.00	28	40	24.3
SCEPTER 1.5AS	0.0625	31	43	24.4
SCEPTER 1.5AS	0.125	33	45	25.2
SCEPTER 1.5AS	0.1875	31	43	23.9
SCEPTER 1.5AS	0.25	29	41	24.7
PURSUIT 1.92L	0.0625	33	44	24.4
PURSUIT 1.92L	0.125	32	43	24.6
PURSUIT 1.92L	0.1875	29	41	24.6
PURSUIT 1.92L	0.25	32	44	24.0
AMIBEN 75DS	3.00	31	43	25.3

Note: ALL CORN PLOTS RECEIVED A PREEMERGENCE APPLICATION OF ATRAZINE AT 2.0 LBS AI/AC PLUS LASSO AT 3.0 LBS AI/AC IN 1986.

Exp. Title: RATES AND COMBINATIONS FOR CONTROL OF PIGWEED AND VELVETLEAF  
Researcher(s): KNAKE, CURRAN, and PAUL Location: DEKALB Field: 1400N-E  
Design: RCB Reps: 1 Trts: 85 Plot size: 10 ft X 10 ft

Soil Type(s): DRUMMER SILTY CLAY LOAM  
Drainage: F (E-G-F-P) % O.M.: 5 pH: 6.1 % Slope: <1  
P test #/A: -- K test #/A: --

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: NONE Cultivar: NONE Previous Crop: SOYBEANS  
Planting Date: -- Rate: -- Depth: --  
Row Spacing: 30 inches

Till\* Fall: NONE Spring: D/H, D/H  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing \* PRE  
Date mm/dd/yy 05/06/86  
Time (24 hr clk) 1800 to 1900  
Crop stage lf/in --  
Soil Temp F 60  
Soil Moist W-A-D A  
Air Temp F 70  
% R.H. 50  
Wind spd/dir 10/SW  
% overcast --  
% residue 0  
Carrier type H<sub>2</sub>O  
Carrier rate gpa 25  
Spray system \*\* TM  
Band width in. --  
Nozzle type FF 8004  
Nozzle ht. in 20  
Pressure lbs. 30  
Speed mph 3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

RATES\* AND COMBINATIONS FOR CONTROL OF PIGWEED AND VELVETLEAF DEKALB 1400N(E)

COMMAND	CHECK	PROWL			LASSO			METR			AMIBEN			PURSUIT			CLASSIC 0.5oz.
		0.33	0.67	1	1	2	3	0.13	0.25	0.38	1	1.5	2	0.03	0.06	0.09	
% PIGWEED CONTROL																	
0	0	20	30	40	80	100	100	100	100	100	85	90	95	95	100	100	100
0.25	0	60	70	80	90	100	100	100	100	100	90	100	100	100	100	100	100
0.5	50	90	90	95	95	100	100	100	100	100	90	100	100	100	100	100	100
0.75	95	95	95	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1.0	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1.25	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
% VELVETLEAF CONTROL																	
0	0	10	20	30	10	20	30	90	95	100	60	70	80	80	90	95	95
0.25	90	90	90	95	95	95	95	95	100	100	100	100	100	100	100	100	100
0.5	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
0.75	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1.0	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1.25	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

\*RATES SHOWN AS LBS OF ACTIVE INGREDIENT PER ACRE.

Exp. Title: SECONDARY SCREENING  
 Researcher(s): KNAKE, CURRAN, and PAUL Location: DEKALB Field: SW-700  
 Design: Reps: 1 Trts: 50 Plot size: 10 ft X 150 ft

Soil Type(s): DRUMMER SILTY CLAY LOAM  
 Drainage: G (E-G-F-P) % O.M.: 6 pH: 6.1 % Slope: <1  
 P test #/A: 63 K test #/A: 320

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: WEEDS Cultivar: -- Previous Crop: WEEDS  
 Planting Date: 04/22/86 Rate: -- Depth: -- inches  
 Row Spacing: -- inches

Till\* Fall: P Spring: D/H  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PRE	POST
Date mm/dd/yy		4/23/86	5/23/86
Time (24 hr clk)		730 to 1000	1430 to 1445
Crop stage lf/in		--	--
Soil Temp F		50	--
Soil Moist W-A-D		A	A
Air Temp F		45-50	70
% R.H.		23	80
Wind spd/dir		10-15/SW	0-3/E
% overcast		0	30
% residue		0	0
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		25	25
Spray system **		TM	TM
Band width in.		--	--
Nozzle type		FF 8004	FF 8004
Nozzle ht. in		19	19
Pressure lbs.		28	28
Speed mph		3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

\*Species Present at Application:

\* THE COLUMNS ON THIS PAGE REFER TO SPECIES PRESENT AT THE TIME OF POSTEMERGENCE APPLICATION ONLY.

Species	CORN	OATS	RRPW	COSF
Stage: lf/in	6/8	4/10	4/0.5	2/1
Density: #/sq ft	--	--	--	--
Species	SORGHUM	YEFT	VELE	COCB
Stage: lf/in	5/4	3/1.5	2/1	2/2
Density: #/sq ft	--	--	--	--
Species	WHEAT	GRFT	JIWE	BYGR
Stage: lf/in	7/2	3/1.5	2/1	5/3.5
Density: #/sq ft	--	--	--	--
Species	ALFALFA	LACG	TAMG	GIFT
Stage: lf/in	2/2	2/0.5	2/1.5	3/1.75
Density: #/sq ft	--	--	--	--
Species	RED CLOVER	SHCA	EBNS	
Stage: lf/in	1/1.5	4/3.5	COTL/0.5	
Density: #/sq ft	--	--	--	
Species	SOYBEANS	GIRW	BUCU	
Stage: lf/in	2/5	4/2.5	2/1	
Density: #/sq ft	--	--	--	

Notes: ALL TREATMENTS ARE PREEMERGENCE EXCEPT CLASSIC 25DG, SCEPTER 1.5AS AND PURSUIT 1.92AS.

## SECONDARY SCREENING

DEKALB SW-700 P.1

HERBICIDES	RATE LB AI/AC	CORN						GRAIN SORGHUM		WHEAT	OATS	ALFALFA	RED CLOVER		
		FR23 x FR29		FR31 x FR20A		A632 x LH38		LH74 x LH123						UNTREATED	SCREEN
<u>Preemergence:</u>															
PROWL	0.5	0		0		0		0	0	0	0	0	0		
PROWL	1.0	0		0		0		0	0	0	0	0	0		
AMIBEN	1.0	0		0		0		0	0	0	10	80	90		
AMIBEN	2.0	0		10		10		10	10	0	20	90	90		
AMIBEN	3.0	0		10		10		10	10	0	30	100	100		
LASSO	2.0	0		0		0		0	0	0	0	10	60		
LASSO	3.0	0		0		0		0	0	0	0	20	70		
HARNES	2.0	0		0		0		0	0	0	10	30	70		
HARNES	3.0	0		0		0		0	0	0	20	50	80		
CGA-24704	1.5	0		0		0		0	10	10	20	10	50		
CGA-24704	2.0	0		0		0		10	10	20	30	20	60		
CINCH	1.5	0		0		0		0	0	0	0	0	0		
CINCH + METRIBUZIN	1.5 + 0.375	0		0		0		0	0	0	0	70	100		
CINCH + SCEPTER	1.5 + 0.125	50		20		20		60	20	20	50	70	80		
CINCH + COMMAND	1.5 + 1.0	50		10		20		10	10	30	60	60	70		
COMMAND	0.5	0		0		0		0	0	20	50	40	60		
COMMAND	1.0	0		0		0		0	10	30	60	60	70		
COMMAND	1.25	0		0		0		0	10	40	60	70	80		
COMMAND + LASSO	1.0 + 2.0	10		10		0		0	10	40	70	70	90		
COMMAND + DUAL	1.0 + 2.0	10		10		10		10	20	50	70	70	90		
COMMAND + PROWL	1.0 + 1.0	20		20		20		20	30	60	80	80	90		
COMMAND + AMIBEN	1.0 + 1.0	10		10		10		10	30	40	70	90	100		
COMMAND + AMIBEN	1.0 + 1.5	10		10		10		10	30	40	70	100	100		
COMMAND + METRIBUZIN	1.0 + 0.25	30		30		10		10	20	50	70	90	80		
SCEPTER	0.125	30		30		30		40	10	30	50	80	80		
SCEPTER + LASSO	0.125 + 2.0	30		30		30		40	10	30	50	80	80		
SCEPTER + DUAL	0.125 + 2.0	30		50		30		50	40	40	60	80	80		
SCEPTER + PROWL	0.125 + 0.75	50		40		40		50	10	30	50	80	80		
SCEPTER + PROWL	0.125 + 1.0	50		50		30		60	10	30	50	80	90		
SCEPTER + AMIBEN	0.125 + 1.0	40		40		40		40	20	40	50	90	100		

## SECONDARY SCREENING

DEKALB SW-700 P.2

HERBICIDES	RATE LB AI/AC	CORN					GRAIN SORGHUM		WHEAT	OATS	ALFALFA	RED CLOVER	
		FR23 x FR29	FR31 x FR20A	A632 x LH38	LH74 x LH123	UNTREATED	SCREEN	OATS				ALFALFA	RED CLOVER
<u>Preemergence:</u>													
SCEPTER + AMIBEN	0.125 + 1.5	50	50	50	50	20	20	40	50	100	100		
SCEPTER + METRIBUZIN	0.125 + 0.25	70	50	50	50	10	10	40	50	70	100		
SCEPTER + COMMAND	0.125 + 0.75	70	40	70	70	10	10	70	70	90	90		
PURSUIT	0.47	0	0	10	10	20	20	40	40	70	70		
PURSUIT	0.94	0	0	20	20	20	20	50	60	80	70		
METRIBUZIN + PROWL	0.25 + 1.0	0	0	0	0	20	0	0	10	80	100		
METRIBUZIN + PROWL + COMMAND	0.25 + 1.0 + 0.25	30	10	10	10	10	10	50	30	90	100		
COMMAND + CLASSIC	0.75 + 0.5 oz	20	20	20	30	30	30	70	60	100	95		
SCEPTER + CLASSIC	0.125 + 0.5 oz	70	60	50	60	40	40	60	50	90	100		
SAN 582H	1.5	20	10	10	20	10	10	30	10	70	80		
SAN 582H	3.0	20	10	10	20	10	10	40	20	80	90		
DPX-L8347	7.5 oz	60	30	30	40	60	50	60	50	100	100		
TURBO	2.5	30	10	10	20	10	10	20	0	100	100		
BAS-514	0.5	20	10	10	20	10	10	0	0	100	100		
<u>Postemergence:</u>													
CLASSIC + X-77 0.25%	0.188 oz	10	10	10	10	40	40	30	40	60	80		
SCEPTER + X-77 0.25%	0.125	50	50	50	50	60	60	40	40	50	60		
PURSUIT + X-77 0.25%	0.094	20	20	20	20	80	80	50	50	40	40		

HERBICIDES	RATE		GIFT	YEFT	GRFT	LACG	BYGR	SHCA	RRPW	VELE	JIWE	ILMG	EBNS	COSF	GIRW	COCB	BUCU
	LB	AI/AC															
Preemergence:																	
PROWL	0.5		50	40	50	50	60	40	90	40	30	40	10	0	0	0	0
PROWL	1.0		80	80	70	100	70	50	90	50	30	50	20	0	0	0	0
AMIBEN	1.0		70	90	80	60	60	70	90	70	0	10	10	0	10	0	0
AMIBEN	2.0		90	100	100	90	70	80	100	90	30	20	30	0	50	0	0
AMIBEN	3.0		100	100	100	100	80	90	100	100	60	30	50	0	90	0	0
LASSO	2.0		90	80	80	100	60	30	90	20	20	0	100	0	10	0	0
LASSO	3.0		100	90	90	100	70	40	100	30	40	0	100	10	20	0	0
HARNES	2.0		100	100	100	100	90	60	100	40	80	0	100	0	30	0	0
HARNES	3.0		100	100	100	100	100	70	100	40	90	0	100	10	50	0	0
CGA-24704	1.5		100	100	90	100	80	20	90	70	30	0	70	0	0	0	0
CGA-24704	2.0		100	100	100	100	90	30	95	70	70	0	80	0	0	0	0
CINCH	1.5		80	80	80	100	80	80	60	80	0	0	0	0	10	0	0
CINCH +	1.5 + 0.375		90	90	90	100	80	70	70	100	100	40	--	100	50	70	80
METRIBUZIN																	
CINCH +	1.5 + 0.125		100	100	80	100	90	70	100	80	80	80	100	100	100	80	60
SCEPTER																	
CINCH +	1.5 + 1.0		100	90	80	100	95	70	70	100	100	0	50	50	10	70	0
COMMAND																	
COMMAND	0.5		80	60	50	50	80	50	40	90	90	0	30	30	20	70	0
COMMAND	1.0		90	90	60	80	90	60	50	90	90	0	50	40	30	70	0
COMMAND	1.25		90	90	70	90	90	70	60	100	90	0	70	50	40	70	0
COMMAND +	1.0 + 2.0		95	100	90	100	100	80	90	95	90	0	100	50	50	80	0
LASSO																	
COMMAND +	1.0 + 2.0		100	100	90	100	100	80	90	100	90	0	100	50	50	80	0
DUAL																	
COMMAND +	1.0 + 1.0		100	100	80	100	100	90	95	100	100	40	--	50	60	80	0
PROWL																	
COMMAND +	1.0 + 1.0		100	100	100	100	100	90	100	100	100	10	--	50	50	80	0
AMIBEN																	
COMMAND +	1.0 + 1.5		100	100	100	100	100	90	100	100	100	20	--	50	60	80	0
AMIBEN																	
COMMAND +	1.0 + 0.25		100	100	100	100	100	90	100	100	100	20	--	50	90	100	80
METRIBUZIN																	

## SECONDARY SCREENING

DEKALB SW-700 P.4

HERBICIDES	RATE		GIFT	YEFT	GRFT	LACG	BYGR	SHCA	RRPW	VELE	JIWE	ILMG	EBNS	COSF	GIRW	COCB	BUCU
	LB	AI/AC															
SCEPTER	0.125		90	90	80	80	60	70	100	90	100	70	100	100	70	80	80
SCEPTER + LASSO	0.125 + 2		100	100	100	100	70	70	100	90	100	70	100	100	90	80	80
SCEPTER + DUAL	0.125 + 2		100	100	90	100	90	80	100	90	100	70	100	100	90	80	80
SCEPTER + PROWL	0.125 + 0.75		100	90	90	100	70	80	100	90	100	80	100	100	90	80	80
SCEPTER + PROWL	0.125 + 1		100	90	90	100	70	80	100	100	80	80	100	100	90	90	80
SCEPTER + AMIBEN	0.125 + 1		100	100	100	90	80	90	100	100	90	80	100	100	90	90	80
SCEPTER + AMIBEN	0.125 + 1.5		100	100	100	95	85	90	100	100	100	80	100	100	90	90	80
SCEPTER + METRIBUZIN	0.125 + 0.25		90	90	100	100	80	70	100	100	100	80	100	100	95	90	90
SCEPTER + COMMAND	0.125 + 0.75		100	100	90	100	100	90	100	100	100	80	100	100	100	80	80
PURSUIT	0.47		70	60	70	80	80	80	100	90	100	80	90	100	95	20	30
PURSUIT	0.94		80	70	80	90	90	95	100	100	100	80	90	100	95	40	40
METRIBUZIN + PROWL	0.25 + 1		90	100	90	100	90	60	100	100	100	60	--	100	95	30	100
METRIBUZIN + PROWL + COMMAND	0.25 + 1 + 0.25		100	100	100	100	100	100	100	100	100	60	--	100	100	50	100
COMMAND + CLASSIC	0.75 + 0.5 oz		100	100	90	100	100	100	100	100	100	80	--	100	95	50	90
SCEPTER + CLASSIC	0.125 + 0.5 oz		100	100	90	90	100	100	90	100	100	90	--	100	100	80	90
SAN 582H	1.5		100	100	80	100	100	40	100	70	100	20	--	0	0	20	0
SAN 582H	3.0		100	100	100	100	100	50	100	70	100	20	--	0	30	40	0

HERBICIDES	RATE		GIFT	YEFT	GRFT	LACG	BYGR	SHCA	RRPW	VELE	JIWE	ILMG	EBNS	COSF	GIRW	COCB	BUCU
	LB	AI/AC															
DPX-L8347	7.5	oz	100	100	100	100	100	95	100	100	100	80	--	100	100	90	90
TURBO	2.5		100	100	100	100	100	60	100	100	100	10	--	100	100	70	95
BAS 514	0.5		100	90	100	100	50	40	90	70	100	80	--	0	95	0	0
<u>Postemergence:</u>																	
CLASSIC + X-77	0.188	+	--	40	20	70	70	70	100	80	100	70	--	100	80	80	0
0.25%																	
SCEPTER + X-77	0.125	+	--	80	90	90	80	80	100	60	100	10	--	100	90	90	100
0.25%																	
PURSUIT + X-77	0.094	+	--	100	100	100	90	100	100	70	100	10	--	100	90	90	0
0.25%																	

Exp. Title: FALL PANICUM AND TILLAGE STUDY  
 Researcher(s): KNAKE, CURRAN, and PAUL Location: ELWOOD Field: NW-700  
 Design: RCB Reps: 3 Trts: 28 Plot size: 10 ft X 60 ft

Soil Type(s): BLOUNT SILT LOAM  
 Drainage: F (E-G-F-P) % O.M.: 3.0 pH: 5.3 % Slope: 1.5  
 P test #/A: 80 K test #/A: 204

Fert # applied/A N: 240 P: 0 K: 240 Form.: AMM. NITRATE FORM2: 0-0-60

Crop Current Crop: CORN Cultivar: PIONEER 3540 Previous Crop: CORN  
 Planting Date: 05/05/86 Rate: 26,000 PPA Depth: 2.0 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: VARIED--SEE TREATMENT LIST  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PRE	EPO
Date mm/dd/yy		05/05/86	05/24/86
Time (24 hr clk)		1600 to 1800	700 to 800
Crop stage lf/in		0/0	3/4.5
Soil Temp F		60	--
Soil Moist W-A-D		A	A
Air Temp F		70	65
% R.H.		40	70
Wind spd/dir		15/SSW	0/0
% overcast		0	--
% residue		--	--
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		25	25
Spray system **		TM	TM
Band width in.		--	--
Nozzle type		FF 8004	FF 8004
Nozzle ht. in		20	20
Pressure lbs.		30	30
Speed mph		3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

#### Species Present at Application

Application Timing:	EPO
Species	FAPA
Stage: lf/in	3/1
Density: #/sq ft	--

## FALL PANICUM AND TILLAGE STUDY

ELWOOD NW-700

TREATMENT	APPL.	RATE LB AI/AC	% CONTROL OF FALL PANICUM											
			PLOW '85	DISK '85	PLOW '86	DISK '86	ZERO '85	PLOW '85	DISK '85	ZERO '86	PLOW '86	DISK '86	ZERO '86	ZERO '85
			PLOW '86	DISK '86	PLOW '86	DISK '86	ZERO '86	PLOW '86	DISK '86	ZERO '86	PLOW '86	DISK '86	ZERO '86	ZERO '86
ERADICANE 3S/ BLADEX 90DF+ TANDEM 4E+ X-77	PRE EPO	4.0 2.0 0.5 0.25%	100	100	100	100	100	100	100	100	100	80	93	96
ERADICANE 3S/ BLADEX 90DF+ PROWL 4EC+ X-77	PRE EPO	4.0 2.0 1.0 0.25%	100	100	100	100	100	100	100	100	97	82	92	96
PRINCEP 90DF/ BLADEX 90DF+ TANDEM 4E+ X-77	PRE EPO	2.0 2.0 0.5 0.25%	100	100	100	100	100	100	100	100	93	87	98	97
PRINCEP 90DF/ BLADEX 90DF+ PROWL 4EC+ X-77	PRE EPO	2.0 2.0 1.0 0.25%	100	100	100	100	100	100	100	100	100	97	100	100
MEAN:			100	100	100	100	100	100	100	100	98	87	96	

Note: ERADICANE 3S IS AN ENCAPSULATED FORMULATION

Exp. Title: CORN IN CLOVER SOD  
 Researcher(s): KNAKE, CURRAN, and PAUL Location: ELWOOD Field: NE-200  
 Design: RCB Reps: 4 Trts: 19 Plot size: 10 ft X 56 ft

Soil Type(s): BLOUNT SILT LOAM/BEECHER SILT LOAM/DRUMMER SILTY CLAY LOAM  
 Drainage: P-F (E-G-F-P) % O.M.: 2-5 pH: 5.6 % Slope: 1  
 P test #/A: 38 K test #/A: 220

Fert # applied/A N: 180 P: 0 K: 0 Form: AMMONIUM NITRATE

Crop Current Crop: CORN Cultivar: PIONEER 3540 Previous Crop: LEGUMES  
 Planting Date: 05-02-86 Rate: 26,000 PPA Depth: 2.0 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: ON CERTAIN PLOTS ONLY: P, D/H, D/H, D/H  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	KND-PRE	POST
Date mm/dd/yy		04/28/86	05-22-86
Time (24 hr clk)		1500 to 1700	430 to 530
Crop stage lf/in		0/0	4/4
Soil Temp F		64	52
Soil Moist W-A-D		D	A
Air Temp F		50	43-66
% R.H.		34-100	50
Wind spd/dir		15/SW	5/E
% overcast		100	--
% residue		60	100
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		25	25
Spray system **		TM	TM
Band width in.		--	--
Nozzle type		FF 8004	FF 8004
Nozzle ht. in		19	19
Pressure lbs.		30	30
Speed mph		3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Notes: AT THE TIME OF THE KND APPLICATION, CLOVER MEASURED 4 INCHES IN HEIGHT.

CORN IN CLOVER SOD

ELWOOD NE-200

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% CONTROL (6/10)		
				CLOVER	GRFT	VELE
ATRAZINE	90DF	KND/PRE	3.0	79	75	100
BLADEX	90DF	KND/PRE	4.0	63	100	100
FALL PLOW						
ATRAZINE+	90DF	KND/PRE	1.5	100	87	30
BLADEX+	90DF		1.5			
DUAL	8E		1.5			
ATRAZINE+	90DF	KND/PRE	1.5	68	100	100
BLADEX+	90DF		1.5			
DUAL	8E		1.5			
ATRAZINE+	90DF	KND/PRE	2.0	68	89	100
BLADEX	90DF		2.0			
ATRAZINE+	90DF	KND/PRE	1.5	69	97	100
BLADEX	90DF		3.0			
ATRAZINE+	90DF	KND/PRE	3.0	75	95	100
DUAL	8E		2.0			
ATRAZINE+	90DF	KND/PRE	3.0	68	95	100
LASSO	4MT		2.5			
ATRAZINE+	90DF	KND/PRE	3.0	68	100	100
PROWL	4EC		1.0			
BANVEL/	4S	KND/PRE	0.5	100	90	100
BANVEL	4S	KND/POST	0.5			
BANVEL+	4S	PRE	0.5	100	97	100
DUAL/	8E		2.0			
BANVEL	4S	POST	0.5			

Exp. Title: CORN IN ALFALFA SOD  
 Researcher(s): KNAKE, CURRAN, PAUL Location: ELWOOD Field: NE200-300  
 Design: RCB Reps: 4 Trts: 11 Plot size: 10 ft X 60 ft

Soil Type(s): BEECHER SILT LOAM/DRUMMER SILTY CLAY LOAM/BLOUNT SILT LOAM  
 Drainage: P-F (E-G-F-P) % O.M.: 2-5 pH: 5.6 % Slope: 1  
 P test #/A: 38 K test #/A: 220

Fert # applied/A N: 180 P: K: Form: AMMONIUM NITRATE

Crop Current Crop: CORN Cultivar: PIONEER 3540 Previous Crop: ALFALFA  
 Planting Date: 05/02/86 Rate: 26,000 PPA Depth: 2.0 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: CERTAIN PLOTS ONLY: P, D/H, D/H, D/H  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	KND-PRE	POST
Date mm/dd/yy		04/29/86	05-22-86
Time (24 hr clk)		800 to 930	430 to 530
Crop stage lf/in		0/0	4/4
Soil Temp F		51	52
Soil Moist W-A-D		D	A
Air Temp F		52	43-66
% R.H.		94	50
Wind spd/dir		5/SW	5/3
% overcast		25	--
% residue		100	100
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		25	25
Spray system **		TM	TM
Band width in.		--	--
Nozzle type		FF 8004	FF 8004
Nozzle ht. in		19	19
Pressure lbs.		30	30
Speed mph		3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Notes: AT THE TIME OF KND APPLICATION, ALFALFA MEASURED 12 INCHES IN HEIGHT

CORN IN ALFALFA SOD

ELWOOD NE200-300

TREATMENT	FORM.	APPL.	LB AI/AC	% CONTROL (6/10)		
				ALFALFA	GIFT	VELE
BANVEL+	4S	KND/PRE	0.5	97	100	100
2,4-D ESTER+	3.8EC		0.5			
DUAL	8E		2.0			
BANVEL+	4S	KND/PRE	0.5	98	100	100
2,4-D ESTER	3.8EC		0.5			
FALL PLOW						
BANVEL+	4S	KND/PRE	0.25	100	100	100
DUAL/	8E		2.0			
BANVEL	4S	POST	0.5			
BANVEL+	4S	KND/PRE	0.25	99	100	100
DUAL/	8E		2.0			
BANVEL	4S	POST	0.5			
BANVEL/	4S	KND/PRE	0.25	91	100	100
BANVEL	4S	POST	0.5			
BANVEL+	4S	KND/PRE	0.25	99	100	100
DUAL/	8E		2.0			
MARKSMAN	3.2L	POST	1.2			
BANVEL/	4S	KND/PRE	0.25	92	100	100
MARKSMAN	3.2L	POST	1.2			
BANVEL+	4S	KND/PRE	0.5	73	100	100
ATRAZINE+	90DF		2.0			
DUAL	8E		2.0			
ROUNDUP+	4L	KND/PRE	4.0	35	100	100
LISSO+	4MT		2.0			
ATRAZINE	90DF		2.0			
2,4-D ESTER+	3.8EC	KND/PRE	1.0	88	100	100
DUAL+	8E		2.0			
ATRAZINE	90DF		2.0			
BRONCO+	4L	KND/PRE	5.0	35	100	100
ATRAZINE	90DF		2.0			

Title: LONTREL AND STARANE IN NO-TILL CORN IN CLOVER AND ALFALFA SOD  
Researcher(s): KNAKE, CURRAN, and PAUL Location: ELWOOD Field: NE-200  
Design:RCB Reps: 1 Trts: 6 Plot size: 10 ft X 60 ft

Soil Type(s): BLOUNT SILT LOAM, BEECHER SILT LOAM, DRUMMER SILTY CLAY LOAM  
Drainage: P-F (E-G-F-P) % O.M.: 3.0 pH: 5.6 % Slope: 1  
P test #/A: 38 K test #/A: 220

Fert # applied/A N: 180 P: 0 K: 0 Form: AMMONIUM NITRATE

Crop Current Crop: CORN Cultivar: PIONEER 3540 Previous Crop: CLOVER/ALFALFA  
Planting Date: 05/02/86 Rate: 26,000 PPA Depth: 2.0 inches  
Row Spacing: 30 inches

Till\* Fall: NONE Spring: NONE  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	KND-PRE
	Date mm/dd/yy	04/29/86
	Time (24 hr clk)	900 to 1000
	Crop stage lf/in	0/0
	Soil Temp F	51
	Soil Moist W-A-D	D
	Air Temp F	52
	% R.H.	94
	Wind spd/dir	5/SW
	% overcast	25
	% residue	100
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	25
	Spray system **	TM
	Band width in.	--
	Nozzle type	FF 8004
	Nozzle ht. in	19
	Pressure lbs.	30
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

LONTREL AND STARRANE IN NO-TILL CORN IN CLOVER AND ALFALFA SOD

ELWOOD NE-200

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% CONTROL (6/10)					% CORN INJ.
				ALFALFA	CLOVER	CODA	GIFT	VELE	
LONTREL	3EC	KND	0.125	50	85	10	95	100	0
LONTREL	3EC	KND	0.25	70	90	30	95	100	0
LONTREL	3EC	KND	0.50	90	100	90	95	100	0
STARRANE	1.67EC	KND	0.25	40	80	10	95	90	0
STARRANE	1.67EC	KND	0.50	60	100	20	98	90	0
STARRANE	1.67EC	KND	1.00	80	100	30	100	90	0

Note: FOR RESIDUAL WEED CONTROL, ALL PLOTS RECEIVED A PREEMERGENCE APPLICATION OF ATRAZINE AT 2.0 LBS AI/AC PLUS DUAL 8E AT 2.0 LBS AI/AC.

Exp. Title: CORN IN RYE AND WHEAT  
 Researcher(s): KNAKE, CURRAN and PAUL Location: ELWOOD Field: SE-900  
 Design: RCB Reps: 2 Trts: 12 Plot size: -- ft X -- ft

Soil Type(s): DRUMMER SILTY CLAY LOAM/ANDRES SILT LOAM  
 Drainage: G (E-G-F-P) % O.M.: 3-4 pH: 5.6 % Slope: 2-3  
 P test #/A: 28 K test #/A: 217

Fert # applied/A N: 180 P: 120 K: 240 Form: AMM. NITRATE, 0-46-0, 0-0-60

Crop Current Crop: CORN Cultivar: PIONEER 3475 Previous Crop: SOYBEANS  
 Planting Date: 05-05-86 Rate: 26,000 PPA Depth: 2.0 inches  
 Row Spacing: 30 inches

Till\* Fall: D,D BEFORE PLANTING WHEAT AND RYE Spring: NONE  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	KND-PRE
	Date mm/dd/yy	05/05/86
	Time (24 hr clk)	1330-1500
	Crop stage lf/in	0/0
	Soil Temp F	60
	Soil Moist W-A-D	A
	Air Temp F	75
	% R.H.	40
	Wind spd/dir	15/SW
	% overcast	20
	% residue	--
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	25
	Spray system **	TM
	Band width in.	--
	Nozzle type	FF 8004
	Nozzle ht. in	20
	Pressure lbs.	30
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

CORN IN RYE AND WHEAT

ELWOOD SE-900

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% CONTROL		% CORN INJURY
				WHEAT	RYE	
DOWPON	74M	KND	3.0	80	20	10
ATRAZINE	90DF	KND	1.5	35	35	0
ATRAZINE	90DF	KND	3.0	65	65	0
BLADEX	90DF	KND	2.0	25	45	0
BLADEX	90DF	KND	4.0	60	75	0
ATRAZINE+	90DF	KND	1.5	50	60	0
BLADEX	90DF		1.5			
ATRAZINE+	90DF	KND	2.0	83	75	0
BLADEX	90DF		2.0			
ATRAZINE+	90DF	KND	1.5	83	75	0
BLADEX	90DF		3.0			
GRAMOXONE+	2L	KND	0.5	93	93	0
ATRAZINE	90DF		2.0			
GRAMOXONE+	2L	KND	0.5	85	88	0
BLADEX	90DF		3.0			
DOWPON+	74M	KND	2.0	85	60	5
TANDEM+	4EC		0.5			
ATRAZINE	90DF		2.0			
UNTREATED CHECK				0	0	0

Note: TO EACH OF THE ABOVE TREATMENTS, LASSO 4MT WAS ADDED AT THE RATE OF 3.0 LBS AI/AC FOR RESIDUAL WEED CONTROL. IN ADDITION, 1 QT/A COC WAS ADDED TO EACH TREATMENT.

RATINGS WERE TAKEN ON JUNE 10.

Exp. Title: COBRA POSTEMERGENCE ON SOYBEANS  
Researcher(s): KNAKE, and PAUL Location: ELWOOD Field: NE-100  
Design: RCB Reps: 3 Trts: 8 Plot size: 10 ft X 50  
ft

Soil Type(s): DRUMMER SILTY CLAY LOAM/ANDRES SILT LOAM  
P test #/A: -- K test #/A: --

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEAN Cultivar: WELLS II Previous Crop: CORN  
Planting Date: 05/23/86 Rate: 45#/AC Depth: 1.5 inches  
Row Spacing: 30 inches

Till\* Fall: P Spring: D/H, D/H  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	EPO
	Date mm/dd/yy	06/10/86
	Time (24 hr clk)	1500 to 1600
	Crop stage lf/in	1/3
	Soil Temp F	--
	Soil Moist W-A-D	A
	Air Temp F	87
	% R.H.	80
	Wind spd/dir	10/SW
	% overcast	20
	% residue	5
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	25
	Spray system **	TM
	Band width in.	--
	Nozzle type	FF 8004
	Nozzle ht. in	20
	Pressure lbs.	30
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: EPO

Species VELE  
Stage: 1f/in 3/1.5  
Density: #/sq ft --

Species RRPW  
Stage: 1f/in 3/1  
Density: #/sq ft --

Species VEMA  
Stage: 1f/in 2/1  
Density: #/sq ft --

Species LACG  
Stage: 1f/in 3/1.5  
Density: #/sq ft --

Notes: FUSILADE 2000 AT A RATE OF 0.25 LB AI/AC WAS APPLIED POST TO THE ENTIRE AREA ON 06-24-86 TO CONTROL GRASS WEEDS.

COBRA POSTEMERGENCE ON SOYBEANS

ELWOOD NE-100

TREATMENTS	RATE LB AI/AC	RATING DATE	% WEED CONTROL					% SB INJ.	SB HT. (IN)
			VELE	RRPW	COLQ	VEMA	GIFT		
COBRA 2EC	0.2	6/19	100	100	100	100	50	7	--
		6/24	100	100	100	100	--	10	8
COBRA 2EC+ X-77	0.2	6/19	100	100	100	100	80	13	--
	0.25%	6/24	100	100	100	100	--	10	8
COBRA 2EC+ COC	0.2	6/19	100	100	100	100	80	17	--
	1 PT	6/24	100	100	100	100	--	10	7
COBRA 2EC+ BASAGRAN 4S+ COC	0.15	6/19	100	100	100	100	50	13	--
	0.5	6/24	100	100	100	100	--	8	8
	1 QT								
COBRA 2EC+ 2,4-DB 2L+	0.2	6/19	97	100	100	100	50	10	--
	0.03	6/24	97	100	100	100	--	10	8
COBRA 2EC+ 10-34-0	0.2	6/19	100	100	100	100	57	5	--
	1 QT	6/24	100	100	100	100	--	5	9
UNTREATED CHECK		6/19	0	0	0	0	0	0	--
		6/24	0	0	0	0	--	0	9
WEED-FREE CHECK		6/19	100	100	100	100	100	0	--
		6/24	100	100	100	100	--	0	9

Note: ALL TREATMENTS APPLIED EARLY POSTEMERGENCE (EPO).

Exp. Title: ADDITIVES TO CLASSIC  
Researcher: R. FIELDING and E. STOLLER Location: ELWOOD Field: SE-2000  
Design: RCB Reps: 4 Trts: 12 Plot size: 10 ft X 29 ft

Soil Type(s): ASHKUM SILTY CLAY LOAM  
Drainage: P (E-G-F-P) % O.M.: 6 pH: 5.2 % Slope: 0-2  
P test #/A: 125 K test #/A: 412

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEAN Cultivar: WILLIAMS 82 Previous Crop: CORN  
Planting Date: 05/21/86 Rate: 52#/A Depth: 1.25 inches  
Row Spacing: 30 inches

Till\* Fall: NONE Spring: P, D, F-H, H  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	EPO
	Date mm/dd/yy	06/17/86
	Time (24 hr clk)	07 to 10
	Crop stage lf/in	2/8
	Soil Temp F	70
	Soil Moist W-A-D	A
	Air Temp F	75
	% R.H.	45
	Wind spd/dir	5/W
	% overcast	20
	% residue	0
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	18
	Spray system **	HH
	Band width in.	--
	Nozzle type	FF 8002
	Nozzle ht. in	19
	Pressure lbs.	40
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	EPO
Species	VELE
Stage: lf/in	1-4/1-6
Density: #/sq ft	0.3
Species	COLQ
Stage: lf/in	4/2
Density: #/sq ft	0.5
Species	RRPW
Stage: lf/in	5/2-3
Density: #/sq ft	1
Species	VEMA
Stage: lf/in	2-4/2
Density: #/sq ft	1

ADDITIVES TO CLASSIC

ELWOOD SE-2000

TREATMENT	FORM.	RATE AI/AC	% WEED CONTROL (7/8)				(7/8) %
			VELE	COLQ	RRPW	VEMA	INJURY
CLASSIC	25DG	1/8 OZ	75	3	89	50	1
CLASSIC	25DG	3/16 OZ	81	3	93	55	0
CLASSIC+ X-77	25DG	1/8 OZ 0.25% v/v	86	5	86	69	5
CLASSIC+ X-77	25DG	3/16 OZ 0.25% v/v	93	8	93	61	8
CLASSIC+ 28% N	25DG	1/8 OZ 1 GAL	90	3	95	59	1
CLASSIC+ 28% N	25DG	3/16 OZ 1 GAL	90	4	93	56	1
CLASSIC+ X-77+ 28% N	25DG	1/8 OZ 0.25% v/v 1 GAL	94	5	94	61	8
CLASSIC+ X-77+ 28% N	25DG	3/16 OZ 0.25% v/v 1 GAL	96	8	95	66	9
BASAGRAN+ COC	4S	1 LB 1 QT	91	89	50	95	1
BASAGRAN+ 28% N	4S	1 LB 1 GAL	95	91	53	96	0
WEEDY CHECK			0	0	0	0	0
WEED FREE CHECK			100	100	100	100	0

Note: THE ENTIRE EXPERIMENTAL AREA RECEIVED A BROADCAST POSTEMERGENCE APPLICATION OF POAST ON JUNE 4 TO CONTROL EMERGED GRASSES.

Exp. Title: ADDITIVES TO DPX-M6316, CLASSIC, AND DPX-M6316 + CLASSIC TANK  
MIXES  
Researcher: R. FIELDING and E. STOLLER Location: ELWOOD Field: SE-2000  
Design: RCB Reps: 4 Trts: 12 Plot size: 10 ft X 29 ft

Soil Type(s): ASHKUM SILTY CLAY LOAM  
Drainage: P (E-G-F-P) % O.M.: 6 pH: 5.2 % Slope: 0-2  
P test #/A: 125 K test #/A: 412

Fert # applied/A: N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: WILLIAMS 82 Previous Crop: CORN  
Planting Date: 05/21/86 Rate: 52#/A Depth: 1.25 inches  
Row Spacing: 30 inches

Till\* Fall: NONE Spring: P, D, F-H, H  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	EPO
	Date mm/dd/yy	06/17/86
	Time (24 hr clk)	07 to 10
	Crop stage lf/in	2/8
	Soil Temp F	--
	Soil Moist W-A-D	A
	Air Temp F	75
	% R.H.	45
	Wind spd/dir	5/W
	% overcast	20
	% residue	--
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	18
	Spray system **	HH
	Band width in.	--
	Nozzle type	FF 8002
	Nozzle ht. in	19
	Pressure lbs.	40
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	EPO
Species	VELE
Stage: lf/in	1-4/1-6
Density: #/sq ft	0.3
Species	COLQ
Stage: lf/in	4/2
Density: #/sq ft	0.5
Species	RRPW
Stage: lf/in	5/2-3
Density: #/sq ft	1
Species	VEMA
Stage: lf/in	2-4/2
Density: #/sq ft	1

ADDITIVES TO DPX-M6316, CLASSIC, AND DPX-6316 + CLASSIC TANK MIXES

ELWOOD SE-2000

TREATMENT	FORM.	RATE AI/AC	% WEED CONTROL (7/8)				(7/8) % INJURY
			VELE	COLQ	RRPW	VEMA	
DPX-M6316+ X-77	75DF	1/16 OZ 0.25% v/v	95	95	95	81	5
DPX-M6316+ X-77	75DF	1/12 OZ 0.25% v/v	93	97	97	85	9
DPX-M6316+ X-77+ 28% N	75DF	1/16 OZ 0.25% v/v 1 GAL	97	94	97	86	8
DPX-M6316+ X-77+ 28% N	75DF	1/12 OZ 0.25% v/v 1 GAL	95	97	97	90	13
DPX-M6316+ CLASSIC+ X-77	75DF 25DG	1/16 OZ 1/8 OZ 0.25% v/v	98	97	97	91	14
DPX-M6316+ CLASSIC+ X-77	75DF 25DG	1/12 OZ 1/8 OZ 0.25% v/v	98	96	98	94	21
DPX-M6316+ CLASSIC+ X-77+ 28% N	75DF 25DG	1/16 OZ 1/8 OZ 0.25% v/v 1 GAL	97	98	97	94	15
DPX-M6316+ CLASSIC+ X-77+ 28% N	75DF 25DG	1/12 OZ 1/8 OZ 0.25% v/v 1 GAL	98	98	98	96	20
CLASSIC+ X-77	25DG	1/8 OZ 0.25% v/v	91	4	92	66	3
CLASSIC+ X-77+ 28% N	25DG	1/8 OZ 0.25% v/v 1 GAL	92	4	91	64	6
DPX-M6316+ CLASSIC+ X-77+ 28% N	75DF 25DG	1/12 OZ 3/16 OZ 0.25% v/v 1 GAL	99	99	99	99	28
WEEDY CHECK			0	0	0	0	0

Note: THE ENTIRE EXPERIMENTAL AREA RECEIVED A BROADCAST POSTEMERGENCE APPLICATION OF POAST ON JUNE 4 TO CONTROL EMERGED GRASSES.

Exp. Title: ADDITIVE RATE STEP-LOG STUDY Code #: UI-035  
Researchers: R. FIELDING and E. STOLLER Location: ELWOOD Field: SE-1900  
Design: RCB Reps: 4 Trts: 24 Plot size: 7.5 ft X 18 ft

Soil Type(s): ELLIOTT SILT LOAM/DRUMMER SILTY CLAY LOAM  
Drainage: P-F (E-G-F-P) % O.M.: 4.5 pH: 5.4 % Slope: 0-2  
P test #/A: 54 K test #/A: 276

Fert # applied/A: N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: WILLIAMS 82 Previous Crop: CORN  
Planting Date: 05/21/86 Rate: 52#/A Depth: 1.25 inches  
Row Spacing: 30 inches

Till\* Fall: NONE Spring: P, D, F-H, H  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	POST
	Date mm/dd/yy	6/17/86
	Time (24 hr clk)	9 to 12
	Crop stage lf/in	2/8
	Soil Temp F	70
	Soil Moist W-A-D	A
	Air Temp F	80
	% R.H.	45
	Wind spd/dir	5/W
	% overcast	20
	% residue	0
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	18
	Spray system **	HH
	Band width in.	--
	Nozzle type	FF 8002
	Nozzle ht. in	19
	Pressure lbs.	40
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	POST
---------------	------

Species	VELE
Stage: lf/in	1-4/1-6
Density: #/sq ft	0.3

Species	COLQ
Stage: lf/in	4/2
Density: #/sq ft	0.3

Species	VEMA
Stage: lf/in	2-4/2
Density: #/sq ft	1

ADDITIVE RATE STEP-LOG STUDY

ELWOOD SE-1900

TREATMENT	RATE AI/AC	% WEED CONTROL (7/8)			(7/8) %
		VELE	COLQ	VEMA	INJURY
<hr/>					
"CLASSIC" 25DG	1/8 OZ +:				
A) X-77	0.5% v/v	89	10	50	4
B) X-77	0.25% v/v	89	11	54	9
C) X-77	0.125% v/v	93	9	54	5
D) X-77	0.063% v/v	89	9	53	3
E) X-77	0.031% v/v	75	6	48	1
F) X-77	0.016% v/v	83	9	55	4
"CLASSIC" 25DG	1/8 OZ +:				
A) 28% N	8 QT	86	6	46	0
B) 28% N	4 QT	90	9	46	0
C) 28% N	2 QT	85	9	48	0
D) 28% N	1 QT	90	6	53	0
E) 28% N	0.5 QT	90	8	48	0
F) 28% N	0.25 QT	90	6	50	0
DPX-M6316 75DF	1/16 OZ +:				
A) X-77	0.5% v/v	96	97	74	12
B) X-77	0.25% v/v	96	94	75	10
C) X-77	0.125% v/v	96	95	76	11
D) X-77	0.063% v/v	95	94	69	6
E) X-77	0.031% v/v	93	95	74	9
F) X-77	0.016% v/v	93	88	74	6
DPX-M6316 75DF	1/16 OZ +:				
A) 28% N	8 QT	86	60	55	0
B) 28% N	4 QT	86	55	51	0
C) 28% N	2 QT	85	60	58	0
D) 28% N	1 QT	86	59	56	0
E) 28% N	0.5 QT	72	59	51	0
F) 28% N	0.25 QT	81	58	50	0

Note: THE ENTIRE EXPERIMENTAL AREA RECEIVED A BROADCAST POSTEMERGENCE APPLICATION OF POAST ON JUNE 4 TO CONTROL EMERGED GRASSES.

Exp. Title: BLAZER AND BASAGRAN SOLO ADDITIVE STUDY  
Researcher: FRITZ KOPPATSCHKEK Location: ELWOOD Field: SE-400  
Design: RCB Reps: 4 Trts: 20 Plot size: 10 ft X 32 ft

Soil Type(s): ANDRES SILT LOAM/DRUMMER SILTY CLAY LOAM  
Drainage: F-G (E-G-F-P) % O.M.: 4.5 pH: 6.0 % Slope: 0-2  
P test #/A: 120 K test #/A: 425

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: WILLIAMS 82 Previous Crop: SOYBEANS  
Planting Date: 05/16/86 Rate: 52#/A Depth: 1.25 inches  
Row Spacing: 30 inches

Till\* Fall: NONE Spring: D/H, F/H  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	POST
	Date mm/dd/yy	6/17/86
	Time (24 hr clk)	8 to 10
	Crop stage lf/in	3/6
	Soil Temp F	70
	Soil Moist W-A-D	A
	Air Temp F	70
	% R.H.	25
	Wind spd/dir	10/E
	% overcast	--
	% residue	--
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	17
	Spray system **	HH
	Band width in.	--
	Nozzle type	FF 8002
	Nozzle ht. in	20
	Pressure lbs.	30
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: POST

Species COCB

Stage: lf/in 6/4

Density: #/sq ft 5

Species VELE

Stage: lf/in 4/3

Density: #/ sq ft 3

Species PESW

Stage: lf/in 3/3

Density: #/sq ft 1

BLAZER AND BASAGRAN SOLO ADDITIVE STUDY

ELWOOD SE-400

TREATMENT	FORM.	RATE LB AI/AC	% WEED CONTROL (6/26)		(6/26) % INJURY
			COCB	VELE	
BLAZER+ 10-34-0	2L	0.38 2PT	72	76	3
BLAZER+ 10-34-0	2L	0.38 8 PT	70	74	5
BLAZER+ 28% N	2L	0.38 4 PT	72	84	5
BLAZER+ 28% N	2L	0.38 8 PT	68	78	7
BLAZER+ AMMONIUM SULF.	2L	0.38 2 LB	71	72	5
BLAZER+ AMMONIUM SULF.	2L	0.38 6 LB	68	78	4
BLAZER+ COC	2L	0.38 1 PT	70	70	15
BLAZER	2L	0.38	66	64	3
BLAZER+ COC	2L	0.50 1 PT	74	69	17
BASAGRAN+ 10-34-0	4S	0.50 2 PT	92	91	2
BASAGRAN+ 10-34-0	4S	0.50 8 PT	86	89	2
BASAGRAN+ 28% N	4S	0.50 4 PT	88	91	2
BASAGRAN+ 28% N	4S	0.50 8 PT	92	92	2
BASAGRAN+ AMMONIUM SULF.	4S	0.50 2 LB	88	89	2
BASAGRAN+ AMMONIUM SULF.	4S	0.50 6 LB	89	92	2

BLAZER AND BASAGRAN SOLO ADDITIVE STUDY

ELWOOD SE-400 P.2

TREATMENT	FORM.	RATE LB AI/AC	% WEED CONTROL (6/26)		(6/26) % INJURY
			COCB	VELE	
BASAGRAN+ COC	4S	0.50 1 QT	88	91	3
BASAGRAN	4S	0.50	92	89	2
BASAGRAN+ COC	4S	1.0 1 QT	92	87	4
WEEDY CHECK			0	0	0
HAND WEEDED CHECK			100	100	0

Exp. Title: BLAZER AND BASAGRAN COMBINATION ADDITIVE STUDY  
Researcher(s): FRITZ KOPPATSCHKEK Location: ELWOOD Field: SE-400  
Design: RCB Reps: 4 Trts: 25 Plot size: 10 ft X 32 ft

Soil Type(s): ANDRES SILT LOAM/DRUMMER SILTY CLAY LOAM  
Drainage: F-G (E-G-F-P) % O.M.: 4.5 pH: 6.0 % Slope: 0-2  
P test #/A: 120 K test #/A: 425

Fert # applied/A: N : 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: WILLIAMS 82 Previous Crop: SOYBEANS  
Planting Date: 05/16/86 Rate: 52#/A Depth: 1.25 inches  
Row Spacing: 30 inches

Till\* Fall: NONE Spring: D/H, F/H  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	POST
	Date mm/dd/yy	06/17/86
	Time (24 hr clk)	08 to 10
	Crop stage lf/in	3/-
	Soil Temp F	70
	Soil Moist W-A-D	A
	Air Temp F	70
	% R.H.	25
	Wind spd/dir	10/E
	% overcast	0
	% residue	0
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	17
	Spray system **	HH
	Band width in.	--
	Nozzle type	FF 8002
	Nozzle ht. in	20
	Pressure lbs.	38
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	POST
Species	COCB
Stage: lf/in	4-6/4-6
Density: #/sq ft	5
Species	VELE
Stage: lf/in	4/3
Density: #/sq ft	3
Species	PESW
Stage: lf/in	3/3
Density: #/sq ft	1

BLAZER AND BASAGRAN COMBINATION ADDITIVE STUDY

ELWOOD SE-400 P.1

TREATMENT	FORM.	RATE LB AI/AC	% WEED CONTROL (6/26)		(6/26) %
			VELE	JIWE	INJURY
BLAZER+	2L	0.12	78	91	4
BASAGRAN	4S	0.25			
BLAZER+	2L	0.12	83	81	7
BASAGRAN+	4S	0.25			
COC		1 PT			
BLAZER+	2L	0.12	82	88	3
BASAGRAN+	4S	0.25			
10-34-0		2 PT			
BLAZER+	2L	0.12	86	91	4
BASAGRAN+	4S	0.25			
28% N		4 PT			
BLAZER+	2L	0.12	85	91	4
BASAGRAN+	4S	0.25			
AMMONIUM SULF.		2 LB			
BLAZER+	2L	0.25	91	91	3
BASAGRAN+	4S	0.50			
BLAZER+	2L	0.25	90	91	9
BASAGRAN+	4S	0.50			
COC		1 PT			
BLAZER+	2L	0.25	93	93	4
BASAGRAN+	4S	0.50			
10-34-0		2 PT			
BLAZER+	2L	0.25	91	93	5
BASAGRAN+	4S	0.50			
28% N		4 PT			
BLAZER+	2L	0.25	94	92	6
BASAGRAN+	4S	0.50			
AMMONIUM SULF.		2 LB			
BLAZER+	2L	0.38	96	94	5
BASAGRAN+	4S	0.50			
BLAZER+	2L	0.38	94	90	13
BASAGRAN+	4S	0.50			
COC		1 PT			

BLAZER AND BASAGRAN COMBINATION ADDITIVE STUDY

ELWOOD SE-400 P.2

TREATMENT	FORM.	RATE LB AI/AC	% WEED CONTROL (6/26)		(6/26) %
			VELE	JIWE	INJURY
BLAZER+ BASAGRAN+ 10-34-0	2L 4S	0.38 0.50 2 PT	92	92	5
BLAZER+ BASAGRAN+ 28% N	2L 4S	0.38 0.50 4 PT	88	93	7
BLAZER+ BASAGRAN+ AMMONIUM SULF.	2L 4S	0.38 0.50 2 LB	91	95	5
BLAZER+ COC	2L	0.50 1 PT	80	84	15
BASAGRAN+ COC	4S	1.0 1 QT	90	91	5
SCEPTER+ TWEEN 20	1.5L	0.125 1.0%	83	81	2
PURSUIT	1.92L	0.10	84	89	4
WEEDY CHECK			0	0	0
CLASSIC+ X-77	25DG	0.125 OZ 2.5%	80	87	3
HARMONY+ X-77	75DF	0.08 OZ 2.5%	82	91	2
BASAGRAN+ COC+ 28% N	4S	0.75 1 QT 4 PT	89	94	4
BLAZER+ COC+ 10-34-0	2L	0.38 1 PT 2 PT	84	85	17
BLAZER+ BASAGRAN+ 2,4-DB+ 10-34-0	2L 4S 2L	0.25 0.50 0.03 2 PT	94	93	7

Notes: SCEPTER, PURSUIT, CLASSIC, AND HARMONY ALL RESPONDED MUCH BETTER AFTER RECEIVING RAINFALL WHICH OCCURRED AFTER THE JUNE 26 RATING WAS MADE.

Exp. Title: BLAZER AND BASAGRAN ADDITIVE LOG STUDY  
 Researcher(s): FRITZ KOPPATSCHKEK Location: ELWOOD Field: SE-1900  
 Design: SPLIT PLOT Reps: 4 Trts: 24 Plot size: 7.5 ft X 10 ft

Soil Type: ELLIOT SILT LOAM/DRUMMER SILTY CLAY LOAM  
 Drainage: P-F (E-G-F-P) % O.M.: 4.5 pH: 5.4 % Slope: 0-2  
 P test #/A: 54 K test #/A: 276

Fert # applied/A: N: 0 P: 0 K: 0

Crop Current Crop: SOYBEANS Cultivar: WILLIAMS 82 Previous Crop: CORN  
 Planting Date: 05/21/86 Rate: 52#/A Depth: 1.25 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: P, D, F-H, H  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing \* EPO  
 Date mm/dd/yy 06/17/86  
 Time (24 hr clk) 11 to 13  
 Crop stage lf/in 2/4  
 Soil Temp F 70  
 Soil Moist W-A-D A  
 Air Temp F 75  
 % R.H. 45  
 Wind spd/dir 5/W  
 % overcast 20  
 % residue 0  
 Carrier type H<sub>2</sub>O  
 Carrier rate gpa 17  
 Spray system \*\* HH  
 Band width in. --  
 Nozzle type FF 8002  
 Nozzle ht. in 20  
 Pressure lbs. 32-34  
 Speed mph 3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

#### Species Present at Application:

Appl. Timing: EPO

Species VEMA  
 Stage: lf/in 4/5  
 Density: #/sq ft 4

Species VELE  
 Stage: lf/in 4/3  
 Density: #/sq ft 4

BLAZER AND BASAGRAN ADDITIVE LOG STUDY

ELWOOD SE-1900 P.1

TREATMENT	FORM.	RATE LB AI/AC	% WEED CONTROL (6/26)		(6/26) % INJURY
			VEMA	VELE	
BLAZER+	2L	0.25	98	98	25
BASAGRAN+	4S	0.50			
COC		4 GAL			
BLAZER+	2L	0.25	98	100	28
BASAGRAN+	4S	0.50			
COC		2 GAL			
BLAZER+	2L	0.25	98	99	24
BASAGRAN+	4S	0.50			
COC		1 GAL			
BLAZER+	2L	0.25	98	98	20
BASAGRAN+	4S	0.50			
COC		0.50 GAL			
BLAZER+	2L	0.25	98	98	18
BASAGRAN+	4S	0.50			
COC		0.25 GAL			
BLAZER+	2L	0.25	97	95	13
BASAGRAN+	4S	0.50			
COC		0.125 GAL			
BLAZER+	2L	0.25	94	96	9
BASAGRAN+	4S	0.50			
10-34-0		4 GAL			
BLAZER+	2L	0.25	94	95	7
BASAGRAN+	4S	0.50			
10-34-0		2 GAL			
BLAZER+	2L	0.25	90	96	6
BASAGRAN+	4S	0.50			
10-34-0		1 GAL			
BLAZER+	2L	0.25	89	94	7
BASAGRAN+	4S	0.50			
10-34-0		0.50 GAL			
BLAZER+	2L	0.25	91	95	6
BASAGRAN+	4S	0.50			
10-34-0		0.25 GAL			
BLAZER+	2L	0.25	92	96	6
BASAGRAN+	4S	0.50			
10-34-0		0.125 GAL			

BLAZER AND BASAGRAN ADDITIVE LOG STUDY

ELWOOD SE-1900 P.2

TREATMENT	FORM.	RATE LB AI/AC	% WEED CONTROL (6/26)		(6/26) % INJURY
			VEMA	VELE	
BLAZER+	2L	0.25	96	98	13
BASAGRAN+	4S	0.50			
28% N		4 GAL			
BLAZER+	2L	0.25	98	100	15
BASAGRAN+	4S	0.50			
28% N		2 GAL			
BLAZER+	2L	0.25	96	96	11
BASAGRAN+	4S	0.50			
28% N		1 GAL			
BLAZER+	2L	0.25	96	98	10
BASAGRAN+	4S	0.50			
28% N		0.50 GAL			
BLAZER+	2L	0.25	95	98	11
BASAGRAN+	4S	0.50			
28% N		0.25 GAL			
BLAZER+	2L	0.25	98	98	8
BASAGRAN+	4S	0.50			
28% N		0.125 GAL			
BLAZER+	2L	0.25	96	98	9
BASAGRAN+	4S	0.50			
AMMONIUM SULF.		4.0 LB			
BLAZER+	2L	0.25	96	96	8
BASAGRAN+	4S	0.50			
AMMONIUM SULF.		2 LB			
BLAZER+	2L	0.25	96	96	10
BASAGRAN+	4S	0.50			
AMMONIUM SULF.		1 LB			
BLAZER+	2L	0.25	94	91	7
BASAGRAN+	4S	0.50			
AMMONIUM SULF.		0.50 LB			
BLAZER+	2L	0.25	96	97	7
BASAGRAN+	4S	0.50			
AMMONIUM SULF.		0.25 LB			
BLAZER+	2L	0.125	96	98	9
BASAGRAN+	4S	0.50			
AMMONIUM SULF.		0.125 LB			

Exp. Title: NO-TILL SOYBEANS IN ALFALFA AND CLOVER  
 Researcher(s): KNAKE, CURRAN, and PAUL Location: ELWOOD Field: SE-700  
 Design: RCB Reps: 3 Trts: 8 Plot size: 10 ft X 40 ft

Soil Type(s): DRUMMER SILTY CLAY LOAM  
 Drainage: F (E-G-F-P) % O.M.: 5 pH: -- % Slope: <1  
 P test #/A: 45 K test #/A: 280

Fert # applied/A N: 0 P: 45 K: 280

Crop Current Crop: SOYBEAN Cultivar: BSR-201 Previous Crop: CLOVER/ALFALFA  
 Planting Date: 05/06/86 Rate: 45#/AC Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: NONE  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	(SPRING)	(FALL)
		KND-PRE	KND
	Date mm/dd/yy	04/29/86	09/27/85
	Time (24 hr clk)	1400 to 1500	1600 to 1700
	Crop stage lf/in	0/0	MATURE
	Soil Temp F	51	66
	Soil Moist W-A-D	D	A
	Air Temp F	77	65
	% R.H.	40	42
	Wind spd/dir	5/SW	--
	% overcast	25	0
	% residue	--	--
	Carrier type	H <sub>2</sub> O	H <sub>2</sub> O
	Carrier rate gpa	25	25
	Spray system **	TM	TM
	Band width in.	--	--
	Nozzle type	FF 8004	FF 8004
	Nozzle ht. in	19	26
	Pressure lbs.	30	30
	Speed mph	3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Notes: 1. FALL TRT: ALFALFA HT.= 12" CLOVER HT.= 6"  
 2. SPRING TRT: ALFALFA HT.= 12" CLOVER HT.= 4"  
 3. 2 LBS OF METOLACHLOR AND 0.5 LBS OF METRIBUZIN ON ALL PLOTS AS PRE  
 TREATMENT

NO-TILL SOYBEANS IN ALFALFA AND CLOVER

ELWOOD SE-700(N)

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% CONTROL (6/9)				% INJ (6/9)	SB HT** (7/7)	# TRIFL (7/7)
				ALF.	R.CLOV.	GIFT	VELE			
BANVEL	4S	FALL	0.5	80	100	100	100	0	24	19
BANVEL	4S	FALL	1.0	95	100	100	100	0	25	21
BANVEL	4S	FALL	2.0	100	100	100	100	0	24	20
2,4-D *	3.8EC	FALL	1.0	100	100	100	100	0	24	19
BANVEL+ 2,4-D *	4S 3.8EC	FALL	0.5 0.5	100	100	100	100	0	24	20
ROUNDUP	4L	FALL	2.0	98	100	100	100	0	25	21
ROUNDUP	4L	SPRING	2.0	47	47	100	100	0	21	18
2,4-D *	3.8EC	SPRING	1.0	73	83	100	100	10	22	20

Note: \* = BUTOXYETHYL ESTER

\*\* = INCHES

ALL PLOTS RECEIVED A PREEMERGENCE APPLICATION OF DUAL 8E AT 2.0 LBS AI/AC PLUS METRIBUZIN AT 0.5 LB AI/AC ON 4-29-86 FOR RESIDUAL WEED CONTROL.

Exp. Title: SOYBEANS IN RYE AND WHEAT  
Researcher(s): KNAKE, CURRAN, and PAUL Location: ELWOOD Field: SE-900  
Design: RCB Reps: 2 Trts: 19 Plot size: 10 ft X 40 ft

Soil Type(s): DRUMMER SILTY CLAY LOAM/ANDRES SILT LOAM  
Drainage: G (E-G-F-P) % O.M.: 2-4 pH: 5.6 % Slope: 2-3  
P test #/A: 28 K test #/A: 217

Fert # applied/A N: 0 P: 120 K: 240 Form: 0-46-0, 0-0-60

Crop Current Crop: SOYBEANS Cultivar: WELLS II Previous Crop: WHEAT/RYE  
Planting Date: 05/06/86 Rate: 45#/AC Depth: 1.5 inches  
Row Spacing: 30 inches

Till\* Fall: D,D, PLANT WHEAT & RYE Spring: NONE  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	KND-PRE
	Date mm/dd/yy	04/29/86
	Time (24 hr clk)	1100 to 1300
	Crop stage lf/in	0/0
	Soil Temp F	50
	Soil Moist W-A-D	D
	Air Temp F	52
	% R.H.	94
	Wind spd/dir	5/SW
	% overcast	25
	% residue	W-20 R-80
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	25
	Spray system **	TM
	Band width in.	--
	Nozzle type	FF 8004
	Nozzle ht. in	19
	Pressure lbs.	30
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Notes: AT THE TIME OF THE KNOCKDOWN APPLICATION (ON 04-29-86) WHEAT WAS SIX  
INCHES HIGH WITH 4-6 TILLERS; RYE WAS TWELVE INCHES HIGH WITH 4-6  
TILLERS AND ENTERING THE JOINT STAGE.

SOYBEANS IN RYE AND WHEAT

ELWOOD SE-900

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% CONTROL		% SOYBEAN INJURY
				WHEAT	RYE	
UNTREATED CHECK				0	0	0
DOWPON	74M	KND	2.0	45	15	50
DOWPON	74M	KND	3.0	60	25	60
DOWPON	74M	KND	4.0	75	35	70
ROUNDUP	4L	KND	0.5	20	20	0
ROUNDUP	4L	KND	0.75	50	55	0
ROUNDUP	4L	KND	1.00	70	65	0
IGNITE	1.67AS	KND	0.5	10	10	0
IGNITE	1.67AS	KND	0.75	45	20	0
IGNITE	1.67AS	KND	1.0	60	30	0
GRAMOXONE	2L	KND	0.25	40	40	0
GRAMOXONE	2L	KND	0.5	65	73	0
POAST	1.5EC	KND	0.25	30	20	0
FUSILADE	1E	KND	0.25	90	35	0
ASSURE	0.8EC	KND	0.125	93	73	0
VERDICT	2EC	KND	0.125	93	50	0
WHIP	1E	KND	0.125	20	20	0
SELECT	2EC	KND	0.125	55	20	0
BAS 517H	1.67EC	KND	0.125	60	40	0

Note: TO EACH OF THE ABOVE TREATMENTS, DUAL 8E AND METRIBUZIN 75DF WERE ADDED AT RATES OF 2.5 LBS AI/AC AND 0.5 LBS AI/AC RESPECTIVELY. THESE HERBICIDES WERE ADDED TO SERVE AS PREEMERGENCE TREATMENTS FOR RESIDUAL WEED CONTROL. IN ADDITION, 1 QT/AC COC WAS INCLUDED WITH EACH TREATMENT.

RATINGS TAKEN ON JUNE 10

Exp. Title: PREEMERGENCE/POSTEMERGENCE CORN STUDY  
 Researcher(s): LIEBL, WAX, ORFANEDES Location: MONMOUTH Field: E-4  
 Design: RCB Reps: 3 Trts: 45 Plot size: 10 ft X 55 ft

Soil Type(s): MUSCATINE SILT LOAM/TAMA SILT LOAM  
 Drainage: G (E-G-F-P) % O.M.: 3.6 pH: 7.4 % Slope: 0-3  
 P test #/A: 45 K test #/A: 180

Fert # applied/A N: 180 P: 0 K: 0 Form: ANHYDROUS AMMONIA

Crop Current Crop: CORN Cultivar: SIEBEN 45XS Previous Crop: SOYBEANS  
 Planting Date: 05/05/86 Rate: 26,100 PPA Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: F/H  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PRE	EPO	POST
Date mm/dd/yy		05/07/86	05/16/86	05/27/86
Time (24 hr clk)		15 to 16	12 to 13	13 to 15
Crop stage lf/in		0/0	2/2	4/6
Soil Temp F		65	70	70
Soil Moist W-A-D		A	D	W
Air Temp F		78	75	75
% R.H.		70	80	80
Wind spd/dir		5/E	5/W	4/W
% overcast		10	90	70
% residue		15	25	20
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		18	18	18
Spray system **		HH	HH	HH
Band width in.		--	--	--
Nozzle type		FF 8003	FF 8003	FF 8003
Nozzle ht. in		20	20	20
Pressure lbs.		35	40	40
Speed mph		3	3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	EPO	POST
Species	MGSP	MGSP
Stage: lf/in	2/1	2/2
Density: #/sq ft	1	1
Species	PSWP	PWSP
Stage: lf/in	1/0.5	2/1
Density: #/sq ft	12	12
Species	VELE	VELE
Stage: lf/in	2/1	2/1.5
Density: #/sq ft	2	2
Species	COLQ	COLQ
Stage: lf/in	2/1	4/2
Density: #/sq ft	8	8
Species	GIFT	GIFT
Stage: lf/in	2/1	3/2
Density: #/sq ft	8	8

Notes: LIGHT RAIN OCCURRED APPROXIMATELY TWO HOURS FOLLOWING THE EARLY POSTEMERGENCE APPLICATION.

PREEMERGENCE/POSTEMERGENCE CORN STUDY

MONMOUTH E-4 P.1

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/13)		PWSP
				GIFT	VELE	
ATRAZINE+ BANVEL	4L 4L	EPO (SPK-2LF)	2.0 0.5	90	92	96
BLADEX+ BANVEL	4L 4L	EPO "	2.0 0.5	95	94	80
LASSO+ BANVEL	4MT 4L	EPO "	3.0 0.5	82	47	83
LASSO+ATRAZINE PM	4L	EPO "	2.5+1.5	98	83	99
PROWL+ ATRAZINE+ BANVEL	4EC 4L 4L	EPO "	1.12 1.0 0.5	91	84	87
PROWL+ BLADEX+ BANVEL	4L 4L 4L	EPO "	1.12 1.0 0.5	89	90	65
PROWL+ MARKSMAN	4EC 3.2L	EPO "	1.12 1.4	83	83	85
MARKSMAN	3.2L	EPO "	1.4	63	88	98
ATRAZINE+ BANVEL	4L 4L	POST (5-6IN)	2.0 0.5	88	100	100
BLADEX+ BANVEL	4L 4L	POST "	2.0 0.5	93	100	100
LASSO+ BANVEL	4MT 4L	POST "	3.0 0.5	42	88	95
LASSO+ATRAZINE PM	3.2L	POST "	2.5+1.5	90	100	100
PROWL+ ATRAZINE+ BANVEL	4EC 4L 4L	POST "	1.12 1.0 0.5	83	100	100
PROWL+ BLADEX+ BANVEL	4EC 4L 4L	POST "	1.12 1.0 0.5	93	100	99
PROWL+ MARKSMAN	4EC 3.2L	POST "	1.12 1.4	86	99	100

## PREEMERGENCE/POSTEMERGENCE CORN STUDY

MONMOUTH E-4 P.2

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/13)		
				GIFT	VELE	PWSP
UNTREATED CHECK				0	0	0
DUAL/ PPG 1259+ ATRAZINE	8E 3FL 4L	PRE POST (5-6IN)	2.0 0.05 0.5	94	99	100
DUAL/ PPG 1259+ ATRAZINE	8E 3FL 4L	PRE POST "	2.0 0.1 0.5	99	100	100
DUAL/ PPG 1259+ 2,4-D AMINE	8E 3FL 3.8L	PRE POST "	2.0 0.1 0.25	97	98	100
TANDEM+ ATRAZINE +COC	4L 4L	POST "	0.5 1.5	82	100	100
TANDEM+ ATRAZINE	4L 4L	POST "	0.5 2.0	97	100	100
TANDEM+ BLADEX	4L 90DF	POST "	0.5 1.5	93	100	89
TANDEM+ ATRAZINE	4L 4L	POST "	0.75 1.5	74	100	100
CHECK (LASSO + ATRAZINE)	4MT 4L	POST "	2.5 1.5	99	98	99
RS-011	3.75EC	POST "	0.9	86	74	100
RS-011+ ATRAZINE	3.75EC 4L	POST "	0.9 1.5	97	100	100
RS-011+ BLADEX	3.75EC 90DF	POST "	0.9 1.25	97	100	100
BENAZOLIN+COC	4L	POST "	0.25	76	71	100
BENAZOLIN+ ATRAZINE+COC	4L 4L	POST "	0.25 0.5	85	97	100
STARANE	1.67	POST "	0.125	77	86	86
STARANE	1.67	POST "	0.25	78	93	92

PREEMERGENCE/POSTEMERGENCE CORN STUDY

MONMOUTH E-4 P.3

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/13)		
				GIFT	VELE	PWSP
LONTREL	3L	POST (5-6 IN)	0.25	72	32	82
LONTREL	3L	POST "	0.50	82	63	87
BROMOXYNIL	4L	POST "	0.38	76	90	100
BROMOXYNIL+ ATRAZINE	4L	POST "	0.25	81	99	100
	4L		0.5			
BROMOXYNIL+ ATRAZINE	4L	POST "	0.25	83	99	100
	4L		0.33			
BROMOXYNIL+ BLADEX	4L	POST "	0.25	84	100	100
	90DF		0.5			
UNTREATED CHECK				0	0	0
BANVEL	4L	POST "	0.25	82	96	100
DPX-M6316	75DF	POST "	0.25 OZ	69	95	100
DPX-M6316	75DF	POST "	0.50 OZ	55	100	100
METRIBUZIN	75DF	POST "	0.25	82	100	100
DPX-M6316+ METRIBUZIN	75DF	POST "	0.25 OZ	83	100	100
	75DF		0.25			
DPX-M6316+ BLADEX	75DF	POST "	0.25 OZ	84	100	100
	90DF		1.0			
BLADEX	90DF	POST "	1.0	89	100	68

Exp. Title: PREEMERGENCE/POSTEMERGENCE SOYBEAN STUDY  
 Researcher(s): LIEBL, WAX, ORFANEDES Location: MONMOUTH Field: F-5  
 Design: RCB Reps: 3 Trts: 43 Plot size: 10 ft X 55 ft

Soil Type: MUSCATINE SILT LOAM  
 Drainage: G (E-G-F-P) % O.M.: 3.6 pH: 7.5 % Slope: 0-2  
 P test #/A: 47 K test #/A: 148

Fert # applied/A N: 0 P: 120 K: 200 Form: 0-44-0 Form: 0-0-60

Crop Current Crop: SOYBEANS Cultivar: SHAWNEE II Previous Crop: CORN  
 Planting Date: 05/23/86 Rate: 150,000 PPA Depth: 1 inch  
 Row Spacing: 30 inches

Till\* Fall: C Spring: D/H, F/H  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PRE	POST
Date mm/dd/yy		05/27/86	06/13/86
Time (24 hr clk)		17 to 19	12 to 14
Crop stage lf/in		0/0	4/4
Soil Temp F		70	72
Soil Moist W-A-D		W	D
Air Temp F		75	80
% R.H.		80	40
Wind spd/dir		3/NE	5/NW
% overcast		10	10
% residue		40	30
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		18	18
Spray system **		HH	HH
Band width in.		--	--
Nozzle type		FF 8003	FF 8002
Nozzle ht. in		20	20
Pressure lbs.		40	42
Speed mph		3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	PRE	POST
Species	MGSP	MGSP
Stage: lf/in	2/0.5	4/1.5
Density: #/sq ft	1-2	1-2
Species	GIFT	GIFT
Stage: lf/in	SPIKE	2/1.5
Density: #/sq ft	2	2
Species		PWSP
Stage: lf/in		2/0.5
Density: #/sq ft		5
Species		VELE
Stage: lf/in		3/1.5
Density: #/sq ft		4

Notes: FIELD CONDITIONS WERE VERY DRY AT TIME OF POST APPLICATION. SMALL WEEDS MAY HAVE BEEN DROUGHT STRESSED AND OVER-AGED. HEMP DOGBANE AND VOL. CORN WERE ALSO PRESENT IN THE FIELD.

## PREEMERGENCE/POSTEMERGENCE SOYBEAN STUDY

MONMOUTH F-5 P.1

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (7/11)			
				GIFT	VELE	PWSP	MGSP
DUAL+ METRIBUZIN	8E 75DF	PRE	2.5 0.45	90	90	100	0
LASSO+ METRIBUZIN	4MT 75DF	PRE	3.0 0.45	90	76	100	63
CINCH+ METRIBUZIN	7E 75DF	PRE	1.3 0.45	92	92	62	66
COMMAND	6EC	PRE	0.5	91	96	3	50
COMMAND	6EC	PRE	1.0	99	98	20	22
COMMAND+ METRIBUZIN	6EC 75DF	PRE	0.5 0.25	95	98	98	25
COMMAND+ METRIBUZIN	6EC 75DF	PRE	0.5 0.45	95	95	98	62
COMMAND+ METRIBUZIN	6EC 75DF	PRE	1.0 0.45	99	99	100	62
UNTREATED CHECK				0	0	0	0
PURSUIT	1.92L	PRE	0.05	42	37	78	50
PURSUIT	1.92L	PRE	0.1	65	53	93	62
SCEPTER	1.5L	PRE	0.063	32	0	0	23
SCEPTER	1.5L	PRE	0.125	53	13	53	47
PROWL+ SCEPTER	4L 1.5L	PRE	1.0 0.125	85	55	80	73
PROWL+ PURSUIT	4L 1.92L	PRE	1.0 0.1	84	80	91	88
COMMAND+ SCEPTER	6EC 1.5L	PRE	0.5 0.063	86	84	44	88
COMMAND+ SCEPTER	6EC 1.5L	PRE	0.5 0.125	87	87	87	73
COMMAND+ SCEPTER	6EC 1.5L	PRE	1.0 0.063	96	94	98	77

## PREEMERGENCE/POSTEMERGENCE SOYBEAN STUDY

MONMOUTH F-5 P.2.

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (7/11)			
				GIFT	VELE	PWSP	MGSP
DPX-L8348	75DF	PRE	6 OZ	62	88	92	85
DPX-L8348	75DF	PRE	8 OZ	17	98	98	97
LASSO+ DPX-L8348	4MT 75DF	PRE	3.0 8 OZ	59	83	100	87
UNTREATED CHECK				0	0	0	0
DUAL+ COMMAND	8E 6EC	PRE	2.5 0.5	94	73	75	73
DUAL+ COMMAND	8E 6EC	PRE	2.5 0.75	90	88	61	77
TURBO	8EC	PRE	2.25	93	85	99	87
TURBO	8EC	PRE	2.75	92	90	98	57
TURBO+ COMMAND	8EC 6EC	PRE	2.25 0.5	94	94	100	89
TURBO+ SCEPTER	8EC 1.5L	PRE	2.25 0.05	78	77	100	83
LASSO/ COBRA	4MT 2E	PRE POST	3.0 0.2	72	88	100	58
LASSO/ BASAGRAN+COC	4MT 4S	PRE POST	3.0 0.75	73	81	100	85
LASSO/ BLAZER+X-77	4MT 2L	PRE POST	3.0 0.5	88	08	100	98
LASSO/ BASAGRAN+ BLAZER+COC	4MT 4S 2L	PRE POST	3.0 0.5 0.38	76	84	100	97
LASSO/ BASAGRAN+ BLAZER+10-34-0	4MT 4S 2L	PRE POST	3.0 0.5 0.38	78	87	100	81
LASSO/ CLASSIC+X-77	4MT 25DG	PRE POST	3.0 0.125	65	13	100	57

## PREEMERGENCE/POSTEMERGENCE SOYBEAN STUDY

MONMOUTH F-5 P.3

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (7/11)			
				GIFT	VELE	PWSP	MGSP
LASSO/ CLASSIC+X-77	4MT 25DG	PRE POST	3.0 0.188	82	20	99	98
LASSO/ SCEPTER+X-77	4MT 1.5L	PRE POST	3.0 0.125	86	0	100	63
LASSO/ PURSUIT+X-77	4MT 1.92L	PRE POST	3.0 0.1	93	65	100	92
UNTREATED CHECK				0	0	0	0
CINCH/ BASAGRAN+ BLAZER + COC	7E 4S 2L	PRE POST	1.3 0.5 0.38	89	87	91	95
HARNESS/ BASAGRAN+ BLAZER + COC	8E 4S 2L	PRE POST	2.5 0.5 0.38	93	78	100	92
PROWL/ BASAGRAN+ BLAZER + COC	4EC 4S 2L	PRE POST	1.0 0.5 0.38	47	93	98	99
CGA-24704/ BASAGRAN+ BLAZER + COC	2.5EC 4S 2L	PRE POST	2.5 0.5 0.38	87	85	100	93
SAN-582/ BASAGRAN+ BLAZER + COC	8E 4S 2L	PRE POST	1.5 0.5 0.38	82	80	100	92
DUAL/ BASAGRAN+ BLAZER + COC	8E 4S 2L	PRE POST	2.5 0.5 0.38	74	83	100	99
CGA-180937/ BASAGRAN+ BLAZER + COC	7.8EC 4S 2L	PRE POST	2.5 0.5 0.38	85	70	100	99

ADJUVANT/ADDITIVE RATES: COC = 1 QT  
X-77 = 0.25% v/v  
10-34-0 = 1 QT

Exp. Title: WEED CONTROL FOR ALFALFA AND RED CLOVER  
Researcher(s): KNAKE and MAINZ Location: MONMOUTH Field C-11  
Design: RCB Reps: 3 Trts: 9 Plot size: 10 ft X 180 ft

Soil Type(s): TAMA SILT LOAM  
Drainage: G (E-G-F-P) % O.M.: 5 pH: 5.5 % Slope: 0-7  
P test #/A: 53 K test #/A: 45

Fert # applied/A N: 0 P: 0 K: 0

Crop Current Crop: ALFALFA/RED CLOVER Cultivar: \*\*\* Previous Crop: SOYBEANS  
Planting Date: 04/23/86 Rate: 12 LB/A Depth: 0.25 inches  
Row Spacing: BROADCAST

Till\* Fall: NONE Spring: D,F  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	EPO
	Date mm/dd/yy	06/02/86
	Time (24 hr clk)	1000 to 1200
	Crop stage lf/in	ALF. 5/7 R.C. 3/3
	Soil Temp F	--
	Soil Moist W-A-D	A
	Air Temp F	65
	% R.H.	70
	Wind spd/dir	8/ENE
	% overcast	0
	% residue	--
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	25
	Spray system **	TM
	Band width in.	--
	Nozzle type	FF 8004
	Nozzle ht. in	20
	Pressure lbs.	30
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: EPO

Species GIFT

Stage: 1f/in 6/8

Density: #/sq ft --

Species VELE

Stage: 1f/in 4/6

Density: #/sq ft --

Species RRPW

Stage: 1f/in 16/5

Density: #/sq ft --

Species COLQ

Stage: 1f/in 32/6

Density: #/sq ft --

Notes: \*\*\*ALFALFA CULTIVAR WAS GLADIATOR; MEDIUM RED CLOVER WAS N.K. THOR.

WEED CONTROL FOR ALFALFA AND RED CLOVER

MONMOUTH C-11

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% CONTROL					
				GIFT	JIWE	VELE	RRPW	COLQ	EBNS
POAST+ 2,4-DB+ COC	1.5EC 2L	EPO	0.25 1.00 1 QT	100	70	90	90	90	10
FUSILADE-P+ 2,4-DB+ COC	1E 2L	EPO	0.25 1.00 1 QT	100	70	90	90	90	10
ASSURE+ 2,4-DB+ COC	0.8EC 2L	EPO	0.125 1.00 1 QT	100	70	90	90	90	10
VERDICT+ 2,4-DB+ COC	2EC 2L	EPO	0.125 1.00 1 QT	100	70	90	90	90	10
WHIP+ 2,4-DB+ COC	1E 2L	EPO	0.125 1.00 1 QT	100	70	90	90	90	10
SELECT+ 2,4-DB+ COC	2EC 2L	EPO	0.125 1.00 1 QT	100	70	90	90	90	10
BAS 517H+ 2,4-DB+ COC	1.67EC 2L	EPO	0.125 1.00 1 QT	100	70	90	90	90	10
DPX-Y6202-31 2,4-DB+ COC	0.8EC 2L	EPO	0.063 1.00 1 QT	100	70	90	90	90	10
2,4-DB*	2L	EPO	1.00	0	70	90	90	90	10

Notes: \* = NO GRASS HERBICIDE USED (CHECK)

ALL TREATMENTS APPLIED EARLY POSTEMERGENCE (EPO).

Exp. Title: PREEMERGENCE CORN STUDY  
 Researcher(s): WAX, LIEBL, STEVENS Location: ORR Field: 1911  
 Design: RCB Reps: 3 Trts: 36 Plot size: 10 ft X 50 ft

Soil Type(s): DOWNS, HERRICK, ROZETTA, CLARKSDALE, AND FAYETTE SILT LOAMS  
 Drainage: F-G (E-G-F-P) % O.M.: 1.5 pH: 6.1 % Slope: 0-4  
 P test #/A: 55 K test #/A: 280

Fert # applied/A: N: 200 P: 0 K: 200 Form: AMMONIUM NITRATE Form: 0-0-60

Crop Current Crop: CORN Cultivar: BURRIS BX34 Previous Crop: SOYBEANS  
 Planting Date: 05/05/86 Rate: 27,000 PPA Depth: 1.75 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: C, D, O-CULTIMULCHER  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PRE
	Date mm/dd/yy	05/08/86
	Time (24 hr clk)	09 to 15
	Crop stage lf/in	0/0
	Soil Temp F	65
	Soil Moist W-A-D	A
	Air Temp F	80
	% R.H.	60
	Wind spd/dir	7/SE
	% overcast	40
	% residue	0
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	25
	Spray system **	TM
	Band width in.	--
	Nozzle type	FF 8003
	Nozzle ht. in	19
	Pressure lbs.	34
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

PREEMERGENCE CORN STUDY

ORR 1911 P.1

TREATMENT	FORM.	APPL.	RATE LB/A	% WEED CONTROL (6/12)					(6/12) % INJURY
				GIFT	COLQ	COCB	VELE	ILMG	
ATRAZINE	90DF	PRE	2.0	78	100	70	100	93	0
BLADEX	90DF	PRE	2.25	88	92	97	100	82	3
BLADEX+ ATRAZINE	90DF 90DF	PRE	1.75 1.5	88	100	85	100	91	3
BLADEX+ ATRAZINE	90DF 90DF	PRE	2.0 1.0	92	100	85	93	97	0
BLADEX+ ATRAZINE	90DF 90DF	PRE	1.0 2.0	88	100	68	98	88	3
PROWL+ ATRAZINE	4EC 90DF	PRE	1.0 1.5	92	100	72	100	93	0
PROWL+ BLADEX	4EC 90DF	PRE	1.0 1.75	97	100	52	100	90	0
DUAL+ BLADEX	8E 90DF	PRE	1.5 1.75	97	92	63	100	83	0
LASSO+ BLADEX	4MT 90DF	PRE	2.0 1.75	100	100	80	100	93	7
LASSO+ BLADEX+ ATRAZINE	4MT 90DF 90DF	PRE	2.0 1.0 0.75	100	98	75	98	80	0
DUAL+ BLADEX+ ATRAZINE	8E 90DF 90DF	PRE	1.5 1.0 0.75	100	100	68	93	88	3
LASSO+ BLADEX+ METRIBUZIN	4MT 90DF 75DF	PRE	2.0 1.0 0.12	98	98	60	100	78	3
LASSO+ ATRAZINE+ METRIBUZIN	4MT 90DF 75DF	PRE	2.0 0.75 0.12	100	100	85	95	58	3
LASSO+ ATRAZINE+ METRIBUZIN	4MT 90DF 75DF	PRE	2.0 0.75 0.24	100	100	75	100	75	0

PREEMERGENCE CORN STUDY

ORR 1911 P.2

TREATMENT	FORM.	APPL.	RATE LB/A	% WEED CONTROL (6/12)					(6/12) % INJURY
				GIFT	COLQ	COCB	VELE	ILMG	
LASSO+ METRIBUZIN	4MT 75DF	PRE	2.0 0.24	98	98	63	100	42	3
DUAL+ ATRAZINE	8E 90DF	PRE	1.5 1.5	100	100	82	98	95	3
DUAL+ ATRAZINE	8E 90DF	PRE	2.0 1.5	100	100	67	98	87	0
DUAL+ ATRAZINE	8E 90DF	PRE	2.5 1.5	100	100	62	100	100	3
LASSO+ ATRAZINE	4MT 90DF	PRE	2.0 1.5	100	100	85	95	98	0
LASSO+ ATRAZINE	4MT 90DF	PRE	2.5 1.5	100	100	68	92	93	0
LASSO+ ATRAZINE	4MT 90DF	PRE	3.0 1.5	100	100	58	100	100	3
SUTAN ENCAP	4S	PRE	4.0	48	88	10	20	87	0
SUTAN ENCAP	4S	PRE	6.0	37	80	17	17	33	0
SUTAN ENCAP+ ATRAZINE	4S 90DF	PRE	4.0 1.5	73	98	73	95	100	0
SUTAN ENCAP+ ATRAZINE	4S 90DF	PRE	6.0 1.5	88	100	87	95	98	0
ERADICANE ENCAP	3S	PRE	4.0	58	87	35	93	88	3
ERADICANE ENCAP	3S	PRE	6.0	65	88	55	87	100	3
ERADICANE ENCAP+ ATRAZINE	3S 90DF	PRE	4.0 1.5	95	100	73	100	97	0
ERADICANE ENCAP+ ATRAZINE	3S 90DF	PRE	6.0 1.5	98	100	45	100	100	0
SUTAN+	6.7E	PRE	6.0	0	0	0	20	17	0
ERADICANE	6.7E	PRE	6.0	62	35	53	92	97	0

PREEMERGENCE CORN STUDY

ORR 1911 P.3

TREATMENT	FORM.	APPL.	RATE LB/A	% WEED CONTROL (6/12)					(6/12) %
				GIFT	COLQ	COCB	VELE	ILMG	INJURY
RS-118	80DF	PRE	3.0	85	100	87	100	82	0
RS-238	80DF	PRE	2.5	90	100	92	97	95	0
DUAL+ PPG-1259	8E 3FL	PRE	2.0 0.15	97	100	67	90	57	3
DUAL+ PPG-1259	8E 3FL	PRE	2.0 0.2	97	97	67	92	27	0
DUAL+ PPG-1259+ ATRAZINE	8E 3FL 90DF	PRE	2.0 0.15 0.75	93	100	70	98	92	0
UNTREATED CHECK				0	0	0	0	0	0

Exp. Title: CORN IN CLOVER AND ALFALFA SOD  
 Researcher(s): KNAKE, KOETHE, and RAINES Location: ORR Field: 0122  
 Design: RCB Reps: 3 Trts: 14 Plot size: 10 ft X 55 ft

Soil Type(s): ROZETTA SILT LOAM  
 Drainage: G (E-G-F-P) % O.M.: 1.5 pH: 5.9 % Slope: 2-5  
 P test #/A: 29 K test #/A: 225

Fert # applied/A N: 200 P: 60 K: 100 Form.: AMM NITRATE, 0-46-0, 0-0-60

Crop Current Crop: Cultivar: GOLD. HARV. 7680 Previous Crop: LEGUMES  
 Planting Date: 05-07-86 Rate: 26,500 PPA Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: NONE  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	(ALFALFA) KND/PRE	(CLOVER) KND/PRE	(ALFALFA) EPO
Date mm/dd/yy	05/02/86	05/02/86	05/02/86	05/27/86
Time (24 hr clk)	830 to 920	920 to 1020	900 to 1000	
Crop stage lf/in	0/0	0/0	0/0	
Soil Temp F	50-55	50-55	--	
Soil Moist W-A-D	A	A	A	
Air Temp F	50-55	50-55	65	
% R.H.	40	40	80	
Wind spd/dir	5/NNW	5/NNW	5/W	
% overcast	0	0	0	
% residue	100	100	100	
Carrier type	H <sub>2</sub> O	H <sub>2</sub> O	H <sub>2</sub> O	
Carrier rate gpa	25	25	25	
Spray system **	TM	TM	TM	
Band width in.	--	--	--	
Nozzle type	FF 8003	FF 8003	FF 8003	
Nozzle ht. in	32	20	--	
Pressure lbs.	30	30	30	
Speed mph	3	3	3	

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: KND/PRE

Species GIFT  
Stage: 1f/in 5/3  
Density: #/sq ft --

Species PESW  
Stage: 1f/in 5/3  
Density: #/sq ft --

Species CORW  
Stage: 1f/in 8/2  
Density: #/sq ft --

Notes: COMMON DANDELION AND HORSEWEED WERE ALSO PRESENT IN THE FIELD.

CORN IN CLOVER AND ALFALFA SOD

ORR-0122

TREATMENT	APPL.	RATE LB AI/AC	% CONTROL IN CLOVER			CORN HEIGHT (INCHES)	CORN STAND PLANTS/AC (1000'S)
			ANNUAL GRASSES	ANNUAL BDLF.	CLOVER		
ATRAZINE 90DF	KND/PRE	2.0	63	100	100	108	27.0
ATRAZINE 90DF+ DUAL 8E	KND/PRE	2.0 2.0	97	100	100	113	25.8
BLADEX 90DF	KND/PRE	3.0	83	95	100	107	25.3
BLADEX 90DF+ DUAL 8E	KND/PRE	3.0 2.0	94	98	100	109	25.3
ATRAZINE 90DF+ BLADEX 90DF	KND/PRE	1.5 1.5	85	100	100	114	25.8
ATRAZINE 90DF+ BLADEX 90DF+ DUAL 8E	KND/PRE	1.5 1.5 1.5	90	99	100	110	25.8
UNTREATED CHECK			55	45	0	89	18.3
BANVEL 4S/ BANVEL 4S	KND/PRE EPO	0.25 0.50	74	98	98	102	20.6
BANVEL 4S+ DUAL 8E/ BANVEL 4S	KND/PRE EPO	0.25 2.0 0.5	93	95	100	105	22.7
MARKSMAN 3.2L/ MARKSMAN 3.2L	KND/PRE EPO	1.2 1.2	99	99	100	102	20.9
MARKSMAN 3.2L+ DUAL 8E/ MARKSMAN 3.2L	KND/PRE EPO	1.2 2.0 1.2	99	99	100	107	23.2
ERADICANE 3S+ BANVEL 4S/ BANVEL 4S	KND/PRE EPO	4.0 0.25 0.5	83	99	100	99	20.0
ERADICANE 3S+ MARKSMAN 3.2L/ MARKSMAN 3.2L	KND/PRE EPO	4.0 1.2 1.2	99	100	100	103	26.7
UNTREATED CHECK			95	99	0	75	20.0

Note: ERADICANE 3S IS AN ENCAPSULATED FORMULATION

Exp. Title: CORN NO-TILL IN CLOVER SOD  
 Researcher(s): KNAKE, KOETHE, RAINES Location: ORR Field: 1923  
 Design: RCB Reps: 4 Trts: 5 Plot size: 10 ft X 50 ft

Soil Type(s): FAYETTE SILT LOAM  
 Drainage: F-G (E-G-F-P) % O.M.: 1.5 pH: 5.8 % Slope: 2-5  
 P test #/A: 20 K test #/A: 175

Fert # applied/A N: 200 P:180 K: 200 Forms: AMM. NITRATE, 0-46-0, 0-0-60

Crop Current Crop: CORN Cultivar: DEKALB 484 Previous Crop: CLOVER  
 Planting Date: 05-02-86 Rate: 24,200 PPA Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: NONE  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	KND-PRE	EPO
Date mm/dd/yy	5/02/86	05/27/86	
Time (24 hr clk)	1500 to 1600	1000 to 1100	
Crop stage lf/in	0/0	--	
Soil Temp F	50-55	--	
Soil Moist W-A-D	A	A	
Air Temp F	60	65	
% R.H.	40	--	
Wind spd/dir	2/N	5/W	
% overcast	0	0	
% residue	100	100	
Carrier type	H <sub>2</sub> O	H <sub>2</sub> O	
Carrier rate gpa	25	25	
Spray system **	TM	TM	
Band width in.	--	--	
Nozzle type	FF 8003	FF 8003	
Nozzle ht. in	20	20	
Pressure lbs.	30	30	
Speed mph	3	3	

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

CORN NO-TILL IN CLOVER SOD

ORR 1923

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% CONTROL		
				CLOVER	GIFT	RRPW
ATRAZINE+	90DF	KND/PRE	1.5	100	88	100
BLADEX+	90DF		1.5			
COC			1 QT			
ATRAZINE+	90DF	KND/PRE	1.5	100	91	100
BLADEX+	90DF		1.5			
DUAL+	8E		1.5			
COC			1 QT			
BANVEL/	4S	KND/PRE	0.25	100	49	100
BANVEL	4S	POST	0.5			
BANVEL+	4S	KND/PRE	0.25	100	78	100
DUAL+	8E		1.5			
COC/			1 QT			
BANVEL	4S	EPO	0.5			
MARKSMAN/	3.2L	KND/PRE	1.2	100	71	100
MARKSMAN		EPO	1.2			

Exp. Title: PREEMERGENCE/POSTEMERGENCE SOYBEAN STUDY  
 Researcher(s): WAX, LIEBL, AND STEVENS Location: ORR Field: 2206  
 Design: RCB Reps: 3 Trts: 36 Plot size: 10 ft X 50 ft

Soil Type(s): DOWNS SILT LOAM  
 Drainage: F-G (E-G-F-P) % O.M.: 1.5 pH: 6.1 % Slope: 2-4  
 P test #/A: 55 K test #/A: 280

Fert # applied/A: N: 0 P:0 K: 200 Form: 0-0-60

Crop Current Crop: SOYBEANS Cultivar: PIONEER 3981 Previous Crop: CORN  
 Planting Date: 05/21/86 Rate: 60#/A Depth: 1.5 inches  
 Row Spacing: 30 inches

Till\* Fall: NONE Spring: C, D, D, D  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	PRE	POST
Date mm/dd/yy		05/21/86	06/12/86
Time (24 hr clk)		09 to 14	09 to 12
Crop stage lf/in		0/0	3/8
Soil Temp F		63	--
Soil Moist W-A-D		A	A
Air Temp F		65	72
% R.H.		40	55
Wind spd/dir		5/N	12/W
% overcast		0	100
% residue		0	0
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		25	25
Spray system **		TM	TM
Band width in.		--	--
Nozzle type		FF 8003	FF 8003
Nozzle ht. in		19	19
Pressure lbs.		42	42
Speed mph		3	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species present at application in reference plots

Appl. Timing: POST

Species GIFT  
Stage: 1f/in 2/2  
Density: #/sq ft <1

Species ILMG  
Stage: 1f/in 4/4  
Density: #/sq ft <1

Species PWSP  
Stage: 1f/in 2/2  
Density: #/sq ft 2

Species COCB  
Stage: 1f/in 3/2  
Density: #/sq ft 1

Species COLQ  
Stage: 1f/in 4/2  
Density: #/sq ft 1-2

Species VELE  
Stage: 1f/in 4/2  
Density: #/sq ft 1-2

PREEMERGENCE/POSTEMERGENCE SOYBEAN STUDY

ORR 2206 P.1

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/25)						(6/25) %
				GIFT	ILMG	PWSP	COCB	COLQ	VELE	INJURY
DUAL+ METRIBUZIN	8E 75DF	PRE	2.0 0.38	95	33	95	77	94	95	0
LASSO+ METRIBUZIN	4MT 75DF	PRE	2.5 0.38	94	23	94	67	96	98	0
CINCH+ METRIBUZIN	7E 75DF	PRE	1.0 0.38	94	37	94	65	94	92	0
COMMAND	6EC	PRE	0.5	93	17	35	58	86	78	0
COMMAND	6EC	PRE	1.0	97	17	65	75	93	77	0
COMMAND+ METRIBUZIN	6EC 75DF	PRE	0.5 0.25	98	37	95	82	95	97	0
COMMAND+ METRIBUZIN	6EC 75DF	PRE	0.5 0.38	97	40	93	74	97	89	0
COMMAND+ METRIBUZIN	6EC 75DF	PRE	1.0 0.38	99	23	99	97	99	87	0
PURSUIT	1.92L	PRE	0.05	72	20	80	60	90	92	0
PURSUIT	1.92L	PRE	0.1	85	30	92	43	92	92	0
SCEPTER	1.5E	PRE	0.063	67	27	75	60	82	85	0
SCEPTER	1.5E	PRE	0.125	62	17	83	57	70	92	0
PROWL+ SCEPTER	4EC 1.5E	PRE	1.0 0.125	92	50	93	67	93	93	0
PROWL+ PURSUIT	4EC 1.92L	PRE	1.0 0.1	93	45	92	70	92	88	0
COMMAND+ SCEPTER	6EC 1.5E	PRE	0.5 0.063	97	40	87	73	92	92	0
COMMAND+ SCEPTER	6EC 1.5E	PRE	0.5 0.125	95	27	92	57	93	89	0
COMMAND+ SCEPTER	6EC 1.5E	PRE	1.0 0.063	98	20	88	72	96	88	0

## PREEMERGENCE/POSTEMERGENCE SOYBEAN STUDY

ORR 2206 P.2

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/25)					(6/25) % INJURY	
				GIFT	ILMG	PWSP	COCB	COLQ		VELE
DPX-L8348	75DF	PRE	0.375	83	67	96	80	96	67	7
DPX-L8348	75DF	PRE	0.5	88	67	96	82	96	65	0
AMIBEN	75DS	PRE	2.7	78	27	87	37	88	63	0
LASSO+ DPX-L8348	4MT 75DF	PRE	2.5 0.5	98	57	96	78	96	83	0
LASSO+ COMMAND	4MT 6EC	PRE	2.5 0.5	99	53	97	80	97	67	0
LASSO+ COMMAND	4MT 6EC	PRE	2.5 0.75	99	57	99	83	98	88	0
TURBO	8EC	PRE	2.0	95	42	92	43	93	60	0
TURBO	8EC	PRE	2.5	96	40	93	52	93	62	0
TURBO+ COMMAND	8EC 6EC	PRE	2.0 0.5	99	58	98	86	98	75	0
AMIBEN+ DUAL	75DS 8E	PRE	2.25 2.0	92	23	93	53	63	70	0
LASSO/ COBRA	4MT 2EC	PRE POST	2.5 0.2	99	92	99	95	99	78	12
LASSO/ BASAGRAN+ COC	4MT 4S	PRE POST	2.5 0.75 1 QT	95	65	93	86	78	65	3
LASSO/ BLAZER+ X-77	4MT 2L	PRE POST	2.5 0.5 0.25%	99	97	97	88	97	72	18
LASSO/ BASAGRAN+ BLAZER+ COC	4MT 4S 2L	PRE POST	2.5 0.5 0.38 1 QT	99	98	100	100	100	80	22
LASSO/ BASAGRAN+ BLAZER+ 10-34-0	4MT 4L 2L	PRE POST	2.5 0.5 0.38 1 QT	99	99	100	99	100	82	20

PREEMERGENCE/POSTEMERGENCE SOYBEAN STUDY

ORR 2206 P.3

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% WEED CONTROL (6/25)						(6/25) %
				GIFT	ILMG	PWSP	COCB	COLQ	VELE	INJURY
LASSO/ CLASSIC+ X-77	4MT 25DG	PRE POST	2.5 0.188 OZ 0.25%	96	75	96	75	91	63	7
LASSO/ CLASSIC+ X-77	4MT 25DG	PRE POST	2.5 0.188 OZ 0.25%	99	95	98	97	98	68	17
LASSO/ SCEPTER+ X-77	4MT 1.5E	PRE POST	2.5 0.125 0.25%	99	55	97	78	97	87	3
LASSO/ PURSUIT+ X-77	4MT 1.92L	PRE POST	2.5 0.1 0.25%	99	92	99	95	99	68	8
UNTREATED CHECK				0	0	0	0	0	0	0

Exp. Title: COBRA POSTEMERGENCE ON DRILLED SOYBEANS  
Researcher(s): KNAKE AND RAINES Location: ORR Field: 2715  
Design: RCB Reps: 4 Trts: 7 Plot size: 10 ft X 55 ft

Soil Type(s): ORION SILT LOAM  
Drainage: F-G (E-G-F-P) % O.M.: 2 pH: 6.1 % Slope: 2-3  
P test #/A: 24 K test #/A: 185

Fert # applied/A N: 0 P: 120 K: 200 Form1: 0-46-0 Form2: 0-60-0

Crop Current Crop: SOYBEANS Cultivar: -- Previous Crop: CORN  
Planting Date: 06/4/86 Rate: -- Depth: 1 inch  
Row Spacing: 7 inches

Till\* Fall: NONE Spring: D, D, D, O-CULTIMULCHER  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing \* EPO  
Date mm/dd/yy 06/16/86  
Time (24 hr clk) 1400 to 1500  
Crop stage lf/in 2 unif./2.5  
Soil Temp F --  
Soil Moist W-A-D A  
Air Temp F 90  
% R.H. 95  
Wind spd/dir 4/WNW  
% overcast 10  
% residue 5  
Carrier type H<sub>2</sub>O  
Carrier rate gpa 25  
Spray system \*\* TM  
Band width in. --  
Nozzle type FF 8003  
Nozzle ht. in 20  
Pressure lbs. 30  
Speed mph 3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: EPO

Species ILMG

Stage: 1f/in 1/1

Density: #/sq ft --

Species CORW

Stage: 1f/in 4/1.5

Density: #/sq ft --

Species RRPW

Stage: 1f/in 1/0.5

Density: #/sq ft --

Species COLQ

Stage: 1f/in 2/0.5

Density: #/sq ft --

Species YENS

Stage: 1f/in 4/3.5

Density: #/sq ft --

Species GIFT

Stage: 1f/in 3/1

Density: #/sq ft --

COBRA POSTEMERGENCE ON DRILLED SOYBEANS

ORR 2715

TREATMENTS	FORM.	RATE LB AI/AC	% CONTROL					% SOYB. INJURY	SOYB. HEIGHT (INCHES)
			PESW	COLQ	CORW	PRSI	GIFT		
COBRA	2EC	0.2	100	100	100	100	20	5	6.0
COBRA+ X-77	2EC	0.2 0.25%	100	100	100	100	20	7	5.5
COBRA+ COC	2EC	0.2 1 PT	100	100	100	100	20	10	5.0
COBRA+ BASAGRAN+ COC	2EC 4S	0.15 0.5 1 PT	100	100	100	100	20	10	5.0
COBRA+ 2,4-DB	2EC 2L	0.2 0.03	100	100	100	100	20	5	6.0
COBRA+ 10-34-0	2EC	0.2 1 QT	100	100	100	100	20	5	6.0
UNTREATED CHECK			0	0	0	0	0	0	7.0

Note: ALL TREATMENTS APPLIED EARLY POSTEMERGENCE (EPO).

Exp. Title: NO-TILL SOYBEANS AFTER CORN I  
Researcher(s): KNAKE, KOETHE, AND RAINES Location: ORR Field 1224  
Design: RCB Reps: 3 Trts: 18 Plot size: 10 ft X 25 ft

Soil Type(s): ROSETTA SILT LOAM  
Drainage: G (E-G-F-P) % O.M.: 2 pH: 5.9 % Slope: 7  
P test #/A: 23 K test #/A: 210

Fert # applied/A N: P: 120 K: 200 Form1: 0-46-0 Form2: 0-0-60

Crop Current Crop: SOYBEANS Cultivar: FS-352 Previous Crop: CORN  
Planting Date: 05/21/86 Rate: 60#/AC Depth: 1 inch  
Row Spacing: 30 inches

Fill\* Fall: NONE Spring: NONE  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing \* KND/PRE  
Date mm/dd/yy 05/02/86  
Time (24 hr clk) 1400 to 1500  
Crop stage lf/in 0/0  
Soil Temp F 50-55  
Soil Moist W-A-D A  
Air Temp F 65-70  
% R.H. 40  
Wind spd/dir 2/N  
% overcast 0  
% residue 99  
Carrier type H<sub>2</sub>O  
Carrier rate gpa 25  
Spray system \*\* TM  
Band width in. --  
Nozzle type FF 8003  
Nozzle ht. in 20  
Pressure lbs. 30  
Speed mph 3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	PRE	EPO
Species	FAPA	FAPA
Stage: lf/in	3/2	11/14
Density: #/sq ft	--	--
Species	COLQ	COLQ
Stage: lf/in	18/3	16/5
Density: #/sq ft	--	--
Species	COCH	EBNS
Stage: lf/in	22/13	32/13
Density: #/sq ft	--	--
Species	--	SMGC
Stage: lf/in	--	66/14
Density: #/sq ft	--	--

NO-TILL SOYBEANS AFTER CORN I

ORR 1224 P.1

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% CONTROL (6/17)	
				FAPA	COLQ
UNTREATED CHECK				0	0
GRAMOXONE+	2L	KND/PRE	0.5	88	100
DUAL+	8E	PRE	2.0		
METRIBUZIN+	75DF		0.5		
X-77			0.25%		
ROUNDUP+	4L	KND/PRE	1.0	90	100
DUAL+	8E		2.0		
METRIBUZIN	75DF		0.5		
IGNITE+	1.67AS	KND/PRE	1.0	85	100
DUAL+	8E		2.0		
METRIBUZIN	75DF		0.5		
POAST+	1.5EC	KND	0.2	23	100
2,4-D LVE+	3.8L		0.5		
COC			1 QT		
FUSILADE+	1E	KND	0.2	43	100
2,4-D LVE+	3.8EC		0.5		
COC			1 QT		
SURFLAN+	4AS	KND/PRE	1.0	30	100
2,4-D LVE	3.8EC	KND	0.5		
FUSILADE+	1E	KND/PRE	0.2	78	100
SURFLAN+	4AS		1.0		
2,4-D LVE+	3.8EC		0.5		
COC			1 QT		
LOROX+	50DF	KND/PRE	1.0	63	100
PROWL+	4EC		1.0		
SURFACTANT WK			0.5%		
LOROX+	50DF	KND/PRE	1.0	63	100
SURFLAN+	4AS		1.0		
SURFACTANT WK			0.5%		
PARAQUAT+	2L	KND/PRE	0.5	77	100
LOROX+	50DF		1.0		
PROWL+	4EC		1.0		
SURFACTANT WK			0.5%		

NO-TILL SOYBEANS AFTER CORN I

ORR 1224 P.2

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% CONTROL (6/17)	
				FAPA	COLQ
GRAMOXONE+	2L	KND/PRE	0.5	68	100
LOROX+	50DF		1.0		
SURFLAN+	4AS		1.0		
SURFACTANT WK			0.5%		
VERDICT+	2EC	KND/PRE	0.25	70	40
SCEPTER+	1.5AS		0.125		
COC			1 QT		
VERDICT+	2EC	KND/PRE	0.25	95	100
CANOPY+	75DF		7.502		
COC			1 QT		
SELECT+	2EC	KND/PRE	0.25	47	50
SCEPTER+	1.5L		0.125		
COC			1 QT		
SELECT+	2EC	KND/PRE	0.25	78	100
CANOPY+	75DF		7.5 OZ		
COC			1 QT		
ASSURE+	0.8EC	KND/PRE	0.125	67	50
SCEPTER+	1.5AS		0.125		
COC			1 QT		
ASSURE+	0.8EC	KND/PRE	0.125	75	100
CANOPY+	75DF		7.5 OZ		
COC			1 QT		

Exp. Title: NO TILL SOYBEANS AFTER CORN II  
Researcher(s): KNAKE, KOETHE, and RAINES Location: ORR Field: 0921(N)  
Design: RCB Reps: 3 Trts: 4 Plot size: 10 ft X 60 ft

Soil Type(s): FAYETTE SILT LOAM/ROZETTA SILT LOAM  
Drainage: F-G (E-G-F-P) % O.M.: 1.5 pH: 6.1 % Slope: 2-4  
P test #/A: 27 K test #/A: 200

Fert # applied/A N: 0 P: 120 K: 200 Form.: 0-46-0, 0-0-60

Crop Current Crop: SOYBEANS Cultivar: FS-352 Previous Crop: CORN  
Planting Date: 05-21-86 Rate: 60#/AC Depth: 1.0 inches  
Row Spacing: 30 inches

Till\* Fall: NONE Spring: NONE  
Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	KND-PRE
	Date mm/dd/yy	05/02/86
	Time (24 hr clk)	1530 to 1615
	Crop stage lf/in	0/0
	Soil Temp F	53
	Soil Moist W-A-D	A
	Air Temp F	65
	% R.H.	40
	Wind spd/dir	5/N
	% overcast	0
	% residue	100
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	25
	Spray system **	TM
	Band width in.	--
	Nozzle type	FF 8003
	Nozzle ht. in	20
	Pressure lbs.	30
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing: KND-PRE

Species FAPA  
Stage: 1f/in 2/1.5  
Density: #/sq ft --

Species COLQ  
Stage: 1f/in 18/3  
Density: #/sq ft --

Notes: OTHER WEED SPECIES PRESENT INCLUDED: COMMON DANDELION AND  
SHEPHERDSPURSE,

NO-TILL SOYBEANS AFTER CORN II

ORR 0921(N)

TREATMENT	FORM.	APPL.	RATE LB AI/AC	% CONTROL			% SOYBEAN INJURY
				FAPA	PESW	COLQ	
POAST+	1.5EC	KND	0.2	91	100	100	0
2,4-D/	3.8EC		0.5				
DUAL+	8E	PRE	2.0				
METRIBUZIN	75DF		0.38				
FUSILADE-2000/	1E	KND	0.2	92	100	87	0
PROWL+	4EC	PRE	1.0				
SCEPTER	1.5AS		0.125				
VERDICT/	2EC	KND	0.38	92	100	48	0
SCEPTER	1.5AS	PRE	0.125				
UNTREATED CHECK				0	0	0	0

Note: KNOCKDOWN AND PREEMERGENCE TREATMENTS APPLIED TOGETHER IN A TANK MIX

Exp. Title: POSTEMERGENCE CONTROL OF ESTABLISHED CANADA THISTLE IN CORN  
Researchers: ORFANEDES, LIEBL, AND WAX Location: Plotner Farm, SAVOY, IL  
Design: RCB Reps: 3 Trts: 7 Plot size: 3 ft X 30 ft

Soil Type(s): FLANAGAN SILT LOAM/SAYBROOK SILT LOAM  
Drainage: F-G (E-G-F-P) % O.M.: 4 pH: 6.2 % Slope: 1  
P test #/A: 61 K test #/A: 231

Fert # applied/A N: 164 P: 92 K:120 Forms: ANHDROUS AMM., 9-23-30

Crop Current Crop: CORN Cultivar: -- Previous Crop: SOYBEANS  
Planting Date: 04-25-86 Rate: 25,600 PPA Depth: 1.5 inches  
Row Spacing: 36 inches

Till\* Fall: NONE Spring: D,F  
Incorp Method: D Incorp Time: 2 hrs Incorp Depth: 5 inches

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
\*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	LPO
	Date mm/dd/yy	06/18/86
	Time (24 hr clk)	15 to 16
	Crop stage lf/in	--/50
	Soil Temp F	75
	Soil Moist W-A-D	A
	Air Temp F	82
	% R.H.	50
	Wind spd/dir	4/SW
	% overcast	10
	% residue	<5
	Carrier type	H <sub>2</sub> O
	Carrier rate gpa	18
	Spray system **	HH
	Band width in.	--
	Nozzle type	FF 8003
	Nozzle ht. in	36
	Pressure lbs.	22
	Speed mph	3

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

Species Present at Application:

Appl. Timing:	LPO
Species	CATH
Stage: lf/in	--/36
Density: #/sq ft	4

Notes: CANADA THISTLE WAS IN THE BUD TO BLOOM STAGE AT THE TIME OF APPLICATION. THE STAND WAS SOMEWHAT VARIABLE OVER THE ENTIRE PLOT AREA, BUT SIGNIFICANT POPULATIONS EXISTED IN MOST PLOTS. VERY LITTLE REGROWTH WAS OBSERVED LATER IN THE SEASON WITH CANADA THISTLE PLANTS THAT SHOWED SIGNIFICANT HERBICIDE ACTIVITY ON JULY 9.

POSTEMERGENCE CONTROL OF CANADA THISTLE IN CORN

SAVOY, IL

TREATMENT	FORM.	RATE LB AI/AC	% CONTROL (07/09)	% CORN INJURY
STARANE	1.67L	0.125	10	0
STARANE	1.67L	0.25	13	0
STARANE	1.67L	0.50	18	0
LONTREL	3L	0.125	50	0
LONTREL	3L	0.25	78	0
LONTREL	3L	0.50	95	0
2,4-D AMINE	3.8L	0.40	42	0
UNTREATED CHECK			0	0

Exp. Title: WILD GARLIC CONTROL STUDY  
 Researcher ROGER GAST Location: HARMONY, IL  
 Design: RCB Reps: 3 Trts: 28 Plot size: 10 ft X 30 ft

Soil Type(s):  
 Drainage: F (E-G-F-P) % O.M.: 1-2 pH: -- % Slope: --  
 P test #/A: -- K test #/A: --

Fert # applied/A N: 100 P: 92 K: 61 Form: UREA Form: 10-46-0

Crop Current Crop: WHEAT Cultivar: CALDWELL Previous Crop: --

Planting Date: 10/21/85 Rate: -- Depth: 1 inch  
 Row Spacing: DRILLED

Till\* Fall D Spring: --  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl. Timing *	EPO	POST	LPO
Date mm/dd/yy	03/21/86	04/08/86	04/27/86
Time (24 hr clk)	08 to 09	07 to 08	06 to 07
Crop stage lf/in	2/3	-/9	-/19
Soil Temp F	32	60	65
Soil Moist W-A-D	W	A	D
Air Temp F	30	60	70
% R.H.	60	70	60
Wind spd/dir	4/NE	5/NW	-/-
% overcast	0	0	0
% residue	0	0	0
Carrier type	H <sub>2</sub> O	H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa	20	20	20
Spray system **	HH	HH	HH
Band width in.	--	--	--
Nozzle type	FF 8003	FF 8003	FF 8003
Nozzle ht. in	20	24	28
Pressure lbs.	30	30	30
Speed mph	4	4	4

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

#### Species Present at Application:

Appl. Timing:	EPO	POST	LPO
Species	WIGA	WIGA	WIGA
Stage: lf/in	1-3/3-8	4-5/12-19	4-6/14-20
Density: #/sq ft	10-15	11	11

Notes: RAINFALL RECORD: NO RAIN FROM 3/21 TO 4/19; 4/19: 2.5in.; 4/28: 0.2in.;  
 5/1: 0.2in.; 5/8: 0.7in.; 5/11: 0.1in.; 5/14: 0.05in.

Exp. Title: WILD GARLIC CONTROL STUDY  
 Researcher: ROGER GAST  
 Design: RCB Repts: 3 Trts: 28 Location: SANDOVAL, IL  
 Plot size: 10 ft X 30 ft

Soil Type(s):  
 Drainage: F (E-G-F-P) % O.M.: 1-2 pH: -- % Slope: --  
 P test #/A: -- K test #/A: --

Fert # applied/A: N: 96 P:92 K: 0 Form: 18-46-0

Current Crop: WHEAT Cultivar: PIONEER 2550 Previous Crop:  
 Planting Date: 10/07/85 Rate: 2 bu./A Depth: 1 inch  
 Row Spacing: 7 inches

Till\* Fall: Spring:  
 Incorp Method: NONE Incorp Time: -- hrs Incorp Depth: -- inch

\* P-plow, C-chis, F-fld cult, D-disk, H-harrow, N-notil, R-ridge, O-other  
 \*\*\*\*\* Double letter indicates operations done twice.\*\*\*\*\*

Appl.	Timing *	EPO	POST	LPO
Date mm/dd/yy		03/21/86	04/08/86	04/27/86
Time (24 hr clk)		10 to 11	05 to 06	07 to 08
Crop stage lf/in		H. TIL/3	F.TIL/11	JOINT/19
Soil Temp F		35	60	65
Soil Moist W-A-D		W	A	D
Air Temp F		32	55	75
% R.H.		60	70	60
Wind spd/dir		2/NW	5/NW	3/S
% overcast		0	0	0
% residue		0	0	0
Carrier type		H <sub>2</sub> O	H <sub>2</sub> O	H <sub>2</sub> O
Carrier rate gpa		20	20	20
Spray system **		HH	HH	HH
Band width in.		--	--	--
Nozzle type		FF 8003	FF 8003	FF 8003
Nozzle ht. in		20	24	28
Pressure lbs.		30	30	30
Speed mph		4	4	4

\*EPP-early preplant, KND-knockdown, PPI-preplant incorp., PRE-preemergence,  
 EPO-early post., POST-post., LPO-late post., O-other (describe).

\*\*TM-tractor mounted, HH-hand held, BI-bicycle, O-other (describe).

#### Species Present at Application:

Appl. Timing:	EPO	POST	LPO
Species	WIGA	WIGA	WIGA
Stage: lf/in	1-3/3-6	3-5/8-14	3-6/10-20
Density: #/sq ft	10	11	11

Notes: ON MARCH 21 WHEAT WAS STILL SLIGHTLY YELLOW; STAND FAIR-GOOD;  
 F.TIL=FULLY TILLERED; H.TIL=HALF TILLERED.

WILD GARLIC CONTROL STUDIES.

1. HARMONY, IL. (JEFFERSON CO.)
2. SANDOVAL, IL. (MARION CO.)

TREATMENT	APPL.	RATE OZ AI/AC	AERIAL BULBLET % REDUCTION BY WT.* (BY LOCATION)	
			HARMONY	SANDOVAL
DPX-M6316 + X77	3/21/86	0.125 + 0.25% v/v	90.2	99.7
"	"	0.25 + "	98.1	100.0
"	"	0.50 + "	99.5	100.0
"	"	1.00 + "	97.2	100.0
DPX-M6316 + 28% N	4/8/86	0.125 + 1 QT	76.8	90.6
"	"	0.125 + 3 QT	67.1	99.6
DPX-M6316 + 10-34-0	"	0.125 + 1 QT	33.3	84.1
"	"	0.125 + 3 QT	59.5	88.9
2,4-D LVE	3/21/86	8.0	90.6	78.7
DPX-M6316 + X77	4/8/86	0.125 + 0.25% v/v	99.8	100.0
"	"	0.25 + "	100.0	100.0
"	"	0.50 + "	99.3	100.0
"	"	1.00 + "	97.8	99.9
DPX-R9674 + X77	"	0.125 + "	100.0	100.0
"	"	0.25 + "	100.0	100.0
"	"	0.50 + "	100.0	100.0
"	"	1.00 + "	100.0	100.0
2,4-D LVE	"	8.0	71.8	78.8
DPX-M6316 + X77	4/28/86	0.125 + 0.25% v/v	86.3	97.9
"	"	0.25 + "	97.5	99.7
"	"	0.50 + "	99.3	99.7
"	"	1.00 + "	99.8	100.0

WILD GARLIC CONTROL STUDIES

1. HARMONY, IL (JEFFERSON CO.) P.2  
2. SANDOVAL, IL (MARION CO.)

TREATMENT	APPL.	RATE OZ AI/AC	AERIAL BULBLET % REDUCTION BY WT.* (BY LOCATION)	
			HARMONY	SANDOVAL
DPX-R9674 + X77	"	0.125 + 0.25% v/v	95.2	98.6
"	"	0.25 + "	98.8	99.4
"	"	0.50 + "	99.7	100.0
"	"	1.00 + "	99.6	98.6
2,4-D LVE	"	8.0	83.6	62.6
UNTREATED CHECK			-	-

Note: \* - percent reduction measured by comparison of total bulb weight in treated plots to the average bulb weight of three untreated plots in the same rep.

APPENDIX A

HERBICIDES EVALUATED IN 1986

TRADE NAME	COMMON NAME	EXPERIMENTAL NO.	COMPANY
AAtrex; others	atrazine	--	several
Amiben	chloramben	--	Union Carbide
Assure	quizalofop	--	DuPont
Banvel	dicamba	--	Sandoz
Basagran	bentazon	--	BASF
Benazolin	benazolin	--	Nor-Am
Butoxone/Butyrac	2,4-DB	--	several
Bladex	cyanazine	--	Shell
Blazer	acifluorfen	--	Rohm & Haas
Brominal	bromoxynil	--	Union Carbide
Buctril	bromoxynil	--	Rhone-Poulenc
Cinch	cinmethylin	SD 095481	Shell
Classic	chlorimuron ethyl	DPX-F6025	DuPont
Cobra	lactofen	PP 844	PPG
Command	--	FMC 57020	FMC
Dowpon	dalapon	--	several
Dual	metolachlor	--	CIBA-GEIGY
Eradicane Encap.	EPTC		Stauffer
Eradicane Extra	EPTC+R25788	--	Stauffer
Evik	ametryne	--	CIBA-GEIGY
Fusilade 2000	fluazifop	--	ICI
Garlon	triclopyr	--	Dow
Goal	oxyfluorfen	--	Rohm & Haas
Glean	chlorsulfuron	--	DuPont
Gramoxone	paraquat	--	ICI
Harness	acetochlor	--	Monsanto
Hoelon	diclofop	--	Hoechst-Roussel
Ignite	glufosinate	HOE 39866	Hoechst-Roussel
Lasso	alachlor	--	Monsanto
Lexone	metribuzin	--	DuPont

APPENDIX A (CONTINUED)

HERBICIDES EVALUATED IN 1986

TRADE NAME	COMMON NAME	EXPERIMENTAL NO.	COMPANY
Linex	linuron	--	Griffin
Lorox	linuron	--	DuPont
Lontrel	clopyralid	XRM 3972	Dow
Marathon	cycloate+safener	--	Stauffer
Modown	bifenox	--	Rhone-Poulenc
Paraquat	paraquat	--	Chevron
Poast	sethoxydim	--	BASF
Princep	simazine	--	CIBA-GEIGY
Prowl	pendimethalin	--	Am Cyanamid
Pursuit	imazethapyr	AC 263,499	Am Cyanamid
Racer	fluorochloridone	--	Stauffer, Terra
Reward	vernolate+R33865	--	Stauffer
Rodeo	glyphosate	--	Monsanto
Round-Up	glyphosate	--	Monsanto
Scepter	imazaquin	AC 252,214	Am Cyanamid
Select	cloproxydim	RE-45601	Chevron
Sencor	metribuzin	--	Mobay
Sonalan	ethalfluralin	--	Elanco
Starane	fluroxypyr	EF 689	Dow
Surflan	oryzalin	--	Elanco
Sutan Encap	butylate	--	Stauffer
Sutan+	butylate+R25788	--	Stauffer
Tackle	acifluorfen	--	Rhone-Poulenc
Tandem	tridiphane	--	Dow
Treflan	trifluralin	--	Elanco
Weedone/Weedar etc.	2,4-D	--	several
Verdict	haloxyfop methyl	Dowco 453	Dow
Vernam	vernolate	--	Stauffer
Whip	fenoxaprop	Hoe 33171	Hoechst-Roussel
Zorlal	norflurazon	--	Sandoz

APPENDIX A (CONTINUED)

HERBICIDES EVALUATED IN 1986

TRADE NAME	COMMON NAME	EXPERIMENTAL NO.	COMPANY
--	--	BAS 514	BASF
--	cycloxydim	BAS 517	BASF
--	--	CGA-24704	CIBA-GEIGY
--	--	CGA-180937	CIBA-GEIGY
--	--	DPX-M6316	DuPont
--	quizalofop	DPX-Y6202-31	DuPont
--	--	GX-105	Griffin
--	--	PPG-1259	PPG
	pyridate	RS-010	Terra
	pyridate	RS-011	Terra
--	--	San 582	Sandoz
--	--	SC-0051	Stauffer
	--	SC-0456	Stauffer
	--	SC-0735	Stauffer
	--	SC-0774	Stauffer
	--	SC-0098	Stauffer

APPENDIX A (CONTINUED)

HERBICIDE PREPACKAGE MIXES EVALUATED IN 1986

TRADE NAME OR EXPERIMENTAL NO.	COMMON NAMES	RATIO	COMPANY
Attrabute II	butylate+atrazine+safener	18:7	Griffin
Bicep	metolachlor+atrazine	5:4	CIBA-GEIGY
Bronco	alachlor+glyphosate	2:1	Monsanto
Buctril+Atrazine PM	bromoxynil+atrazine	1:2	Rhone-Poulenc
DPX-L8347	chlorimuron ethyl+metribuzin	1:16	DuPont
DPX-L8348	chlorimuron ethyl+metribuzin	1:10	DuPont
Dyanap	naptalam+dinoseb	2:1	Uniroyal
Genate+	butylate+PPG 1294	12:1	PPG
Landmaster	2,4-D+glyphosate	43:57	Monsanto
Lasso+Atrazine PM	alachlor+atrazine	3:2	Monsanto
Marksman	dicamba+atrazine	1:1.9	Sandoz
MFR-13327	trifluralin+metribuzin	2:1	Mobay
Prowl+Scepter	pendimethalin+imazaquin	8:1, 6:1	Am. Cyanamid
Rescue	naptalam+2,4-DB	33:1	Uniroyal
RS-100	pyridate+atrazine	43:57	Terra
RS-118	pendimethalin+atrazine	1:1	Terra
RS-238	pendimethalin+atrazine	2:3	Terra
Sutazine	butylate+atrazine+R25788	4:1:0.17	Stauffer
Turbo	metolachlor+metribuzin	5:1	Mobay

APPENDIX A (CONTINUED)

ADDITIVES EVALUATED IN 1986

ADDITIVE	CLASSIFICATION	COMPANY
Triton AG-98	surfactant	Rohm & Haas
COC	crop oil concentrate	several
X-77	surfactant	Chevron
Tween 20	surfactant	Am Cyanamid
10-34-0	fluid fertilizer	several
28% N	fluid fertilizer	several
Ammonium sulfate	fertilizer	several
R25788	safener	Stauffer
R33865	safener	Stauffer

APPENDIX B

INDEX OF WEED SPECIES REPORTED

ABBREVIATION	COMMON NAME	BOTANICAL NAME
BUCU	Bur Cucumber	<i>Sicyos angulatus</i>
BYGR	Barnyardgrass	<i>Echinochloa crus-galli</i>
CATH	Canada Thistle	<i>Cirsium arvense</i>
COCB	Common Cocklebur	<i>Xanthium strumarium</i>
COCH	Common Chickweed	<i>Stellaria media</i>
CODA	Common Dandelion	<i>Taraxacum officinale</i>
COLQ	Common Lambsquarters	<i>Chenopodium album</i>
CORW	Common Ragweed	<i>Ambrosia artemisiifolia</i>
COSF	Common Sunflower	<i>Helianthus annuus</i>
EBNS	Eastern Black Nightshade	<i>Solanum ptycanthum</i>
FAPA	Fall Panicum	<i>Panicum dichotomiflorum</i>
GIFT	Giant Foxtail	<i>Setaria faberi</i>
GIRW	Giant Ragweed	<i>Ambrosia trifida</i>
GRFT	Green Foxtail	<i>Setaria viridis</i>
HOWE	Horseweed	<i>Conyza canadensis</i>
ILMG	Ivyleaf Morningglory	<i>Ipomea hederacea</i>
JIWE	Jimsonweed	<i>Datura stramonium</i>
LACG	Large Crabgrass	<i>Digitaria sanguinalis</i>
MGSP	Morningglory species	<i>Ipomoea species</i>
PESW	Pennsylvania Smartweed	<i>Polygonum pennsylvanicum</i>
PWSP	Pigweed spp.	<i>Amaranthus spp.</i>
PRLE	Prickly Lettuce	<i>Lactuca serriola</i>
PRPW	Prostrate Pigweed	<i>Amaranthus blitoides</i>
PRSI	Prickly Sida	<i>Sida spinosa</i>
RRPW	Redroot Pigweed	<i>Amaranthus retroflexus</i>
SHCA	Shattercane	<i>Sorghum bicolor</i>
SHPU	Shepherdspurse	<i>Capsella bursa-pastoris</i>
SMGC	Smooth Groundcherry	<i>Physalis subglabrata</i>
SMPW	Smooth Pigweed	<i>Amaranthus hybridus</i>
TAMG	Tall Morningglory	<i>Ipomea purpurea</i>
TAMU	Tansy Mustard	<i>Descurainia pinnata</i>
VELE	Velvetleaf	<i>Abutilon theophrasti</i>
VEMA	Venice Mallow	<i>Hibiscus trionum</i>
WIGA	Wild Garlic	<i>Allium vineale</i>
YEFT	Yellow Foxtail	<i>Setaria glauca</i>

APPENDIX C

RAINFALL SUMMARY FOR THE MONTH OF APRIL

DATE	BROWNSTOWN	DEKALB	ELWOOD	MONMOUTH	ORR	URBANA
1	0	0.07	0	0.01	T	0
2	0.1	0	0	0	0	0.18
3	0	0.03	0.13	0.17	0.34	0.14
4	0	0.04	0	0.01	T	0
5	0	0.11	0	0.05	0.06	0
6	0	0	0	0	0	0
7	0	0	0	0	0	0
8	0	T	0	0	0	0
9	0	0	0	0	0	0
10	0	0	0	0	0	0
11	0	0	0	0	0	0
12	0	0.12	0	0	0	0
13	0	0	0.03	0.08	0.04	0.12
14	0	0.37	T	0.38	0.29	0.03
15	0.04	0.07	0.35	T	T	0.25
16	0.03	0	0.03	T	0.18	0.03
17	0	0	0	0	0	0.01
18	0	0	0	0	0	0
19	0	0	0	T	0.05	0
20	0	0	0	0	0	0.11
21	0.36	0	0.03	T	0.04	0.08
22	0	0	0.02	0	0	0.02
23	0	0	0	0	0	0
24	0	0	0	0	0	0
25	0	0	0	0	0.03	0
26	0	T	0	0.04	0	0
27	0	0	0	0	0	0
28	0.19	0.24	0.03	0.13	0.15	0.08
29	0	0.25	T	T	0	0
30	0	0.52	0.31	0.19	0	0.04
TOTALS	0.72	1.82	0.93	1.06	1.18	1.09

APPENDIX C

RAINFALL SUMMARY FOR THE MONTH OF MAY

DATE	BROWNSTOWN	DEKALB	ELWOOD	MONMOUTH	ORR	URBANA
1	0.01	0	0.02	0.52	0.77	1.50
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0.02	0.10	0	0
7	0	T	0	0.27	0	0.30
8	0	0	0	0.02	0	0
9	0	0	0	0	0.04	0
10	0.10	0	0	0	0.12	0
11	0	0.03	0	0.02	0.06	0
12	0.14	0	0.02	0	0	0
13	0	0.48	0	T	0.05	0
14	0.13	0.03	0.19	0.09	T	0.10
15	0.38	0.43	0	0.05	0.15	0.05
16	0.06	0	0.17	0.11	0.31	0.34
17	0	3.17	0.33	1.62	0.32	0.02
18	0.40	0.10	0.40	1.04	0.33	0.27
19	0	0.06	0.09	0	0.02	0.12
20	0	0	0	0	0	0
21	0	0	0	0	0	0
22	0	0	0	0	0	0
23	0	0	0	0	0	0
24	0	0	0	0	0	0
25	0	0	0	0	0	0
26	0.29	0.64	0	0.55	0.07	0.23
27	0	0	1.44	0.27	T	0.03
28	0	0.01	0.02	T	0	0
29	0.76	0.29	0.24	0.01	T	1.32
30	0	T	0	0.02	0.33	0
31	0	T	0	0	0	0
TOTALS	2.27	5.24	2.94	4.68	2.57	4.28

APPENDIX C

RAINFALL SUMMARY FOR THE MONTH OF JUNE

DATE	BROWNSTOWN	DEKALB	ELWOOD	MONMOUTH	ORR	URBANA
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0.03	0	0
5	0	0.16	0.15	0.34	0.02	0.04
6	0.16	0	0	0.20	T	0.95
7	0.17	0	0.10	0.25	1.55	0.56
8	0.07	0	1.07	0	T	0.06
9	0.34	0	0	0	T	0
10	0.28	0.67	0.02	0.10	0.20	0.25
11	0	0.08	0	0	T	0
12	0	0.03	0	0.04	0	0
13	0	0	0	0	0	0
14	0	0.57	0.06	0	0	0
15	0	0	0.93	0.35	1.18	0.17
16	0	0.30	0.03	T	0	0
17	0	0	0	0	0	0
18	0	0	0	0	0	0
19	0	0	0	0	0	0
20	0	0	0	0	0	0
21	0	0	0	0	0	0
22	0	0.37	0	0.05	0	0
23	0	0.01	0	0.21	0	0
24	0	0	0	0.02	0	0
25	0	0	0	0	0	0
26	0	T	0	0	0	0
27	0	0.28	0	0	0	0
28	0	0	1.03	0.16	1.04	1.21
29	0	0	0	0.01	0	0
30	0	1.03	0.57	1.13	T	1.10
TOTALS	1.02	3.50	3.96	2.88	3.99	4.34



MAP SHOWING LOCATIONS OF 1986 WEED SCIENCE RESEARCH STUDIES IN ILLINOIS.

Note: Harmony, Sandoval, and Savoy, Illinois not shown.  
Orr Research Center shown as Perry.





632.58  
Il6  
1986 sup.

AGX

1986

ILLINOIS

WEED CONTROL RESEARCH REPORT

SUPPLEMENT

DEPARTMENT OF AGRONOMY

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

AGRICULTURE LIBR.  
OCT 18 198  
UNIVERSITY OF ILLINOIS



INDEX

	<u>Page</u>
INTRODUCTION . . . . .	1
SUMMARY . . . . .	3
<u>NORTHERN ILLINOIS AGRONOMY RESEARCH CENTER - DEKALB</u>	
Screening trials for northern Illinois . . . . .	13
Corn after soybeans with no tillage or reduced tillage . . . . .	20
Corn no-till in clover and alfalfa sod in northern Illinois . . . . .	22
Evaluation of herbicides for control of perennial grass for no-till soybeans . . . . .	25
Fall application of dicamba and 2,4-D for control of alfalfa and medium red clover . . . . .	26
Tridiphane and triazines for postemergence weed control in corn . . . . .	27
Postemergence herbicides for control of broadleaf weeds in soybeans . . . . .	28
Evaluation of butylate and EPTC with encapsulated formulations, impregnated on dry fertilizer and with surface application versus one and two pass incorporation . . . . .	29
Common lambsquarters control in soybeans . . . . .	32
Improving control of redroot pigweed and velvetleaf . . . . .	35
Effect of herbicide residues on corn following soybeans treated with FMC-57020, imazaquin or AC-263,499 . . . . .	37
Evaluation of herbicides for weed control in no-till drilled soybeans . . . . .	40
Lactofen as a postemergence for soybeans - Northern Illinois . . . . .	41
Weed control for a reduced tillage cropping sequence . . . . .	43
<u>NORTHEASTERN ILLINOIS AGRONOMY RESEARCH CENTER - ELWOOD</u>	
Corn in clover sod in northeastern Illinois . . . . .	46
Corn in alfalfa sod in northeastern Illinois . . . . .	48
Clopyralid and fluroxypyr for no-till corn in clover and alfalfa sod . . . . .	50
Fall panicum control in continuous corn with various tillage systems and herbicides . . . . .	51
Control of wheat and rye for no-till planting of soybeans . . . . .	54
Control of wheat and rye for no-till planting of corn . . . . .	56
Soybeans no-till in alfalfa and clover sod . . . . .	58
Lactofen postemergence for soybeans in northeastern Illinois . . . . .	60
Persistence of DPX-F6025 as affected by pH and tillage . . . . .	62
<u>ORR AGRICULTURAL RESEARCH AND DEMONSTRATION CENTER - PERRY</u>	
Control of clover and alfalfa for no-till corn . . . . .	64
Soybeans no-till after corn in western Illinois . . . . .	66
Herbicides for no-till soybeans after corn . . . . .	67
Corn no-till in clover sod in western Illinois . . . . .	69
Lactofen postemergence for soybeans in western Illinois . . . . .	71
Herbicides for establishing alfalfa and red clover . . . . .	73

NORTHWESTERN ILLINOIS AGRICULTURAL RESEARCH AND DEMONSTRATION CENTER -  
MONMOUTH

Postemergence control of weeds for establishing clover and alfalfa . . . . .	75
---	----

MULTIPLE LOCATIONS

Residue studies with FMC-57020, imazaquin, AC-263,499 and DPX-F6025 - DeKalb, Monmouth, Urbana, Belleville . . . . .	76
Terminology for Herbicides in This Report . . . . .	82
Weed Names and Codes . . . . .	83
Rainfall . . . . .	84
Air Temperatures . . . . .	87
Humidity . . . . .	90
Map of Research Centers . . . . .	93

## INTRODUCTION

This report supplements an earlier report (Fall 1986) by the weed science staff at the University of Illinois. Much of the data presented here has previously been included in that report and in the 1986 Research Report of the North Central Weed Control Conference. For this report, yields have been added and more statistical analyses. More complete weather data is included and more commentary with greater emphasis on interpretation and summary.

Many individuals have been involved in this research:

### State Weed Science Staff

Ellery L. Knake  
William S. Curran  
David R. Pike

### Area Agronomists

Lyle E. Paul  
Michael J. Mainz  
Glenn A. Raines  
M. Gene Oldham

### Area IPM Specialists

Robert W. Koethe  
Ann M. Carrick

### Farm Foremen

Dale Harshbarger  
David Lindgren  
Jay Sutor  
Mike Vose  
Mike Plotner

### Students

Jim Peters  
Ronald F. Krausz (Graduate)

In addition, inputs have been made by state weed science staff, including Rex Liebl, Loyd Wax, Ed Stoller, Marshal McGlamery, Diane Anderson, Mike Orfanedes, and George Kapusta. We also recognize the outstanding work of graduate students in weed science and their contributions to the total program.

Appreciation is expressed to the administration of the Department of Agronomy, the Illinois Agricultural Experiment Station and others of the College of Agriculture, including our expert secretaries. We also acknowledge the valuable support of our county extension advisers and agricultural communications staff as well as those of the media who are so valuable in helping to disseminate the information in many ways.

About 35 experiments were conducted at 6 different locations with a wide range of soil and climatic conditions. Land area used is estimated at about 50 acres. The University of Illinois has a very significant investment in land, facilities, equipment and personnel. However, direct support from the university for travel, specialized equipment, repairs, supplies and technical support help is extremely modest.

Most of the research reported here is oriented toward helping farmers to operate more efficiently to reduce cost of production. It is also directed at

helping to assure safety to their crops and themselves while conserving and protecting their land resources from adverse effects. However, commodity producer groups are currently interested primarily in increasing marketing rather than in production oriented research. Thus, direct support from this segment has been essentially non-existent.

An estimated \$350,000,000 worth of herbicides are used in Illinois annually by about 90,000 farmers and over 10,000 commercial applicators on approximately 20 million acres. The support that has been received from industry is very much appreciated, but compared to the herbicide sales for Illinois and considering the basic investment by the university, support from industry for this phase of our applied research has been rather modest. We sincerely appreciate those who have been supportive and look forward to improved interaction with those who have not. Industry can be among the major beneficiaries as research is done to determine how their products best fit the soils, crops, weeds, and climatic conditions of the state. Those with reputable products also benefit from our vast technology transfer system for communicating with the agricultural sector of the state.

Thus, while several phases of our weed science program at the University of Illinois are on a relatively firm foundation, there is a significant need to increase support for operating some aspects of our weed science research program.

As the research results are moved into the technology transfer system, hopefully these results will be helpful to farmers, dealers, applicators and others faced by increasing complexity for making their decisions for designing weed control programs. Hopefully, the results will also be helpful to industry as they plan their strategy for development in Illinois.

We have attempted to place primary emphasis on research that will help farmers to obtain optimum broad-spectrum weed control at a reasonable cost while minimizing adverse effects. Where we visualize new needs and opportunities, we attempt to design systems to fit changing production practices. However, we also continue what might be considered more routine research to determine what specific rates of each herbicide are needed on each major weed species. We evaluate crop tolerance and potential for affecting subsequent crops.

We sincerely appreciate the suggestions, help and support of those involved in our weed science research program. With your cooperation, we hope to be of even greater service in the future.

## SUMMARY

Research included in this report can be divided into several main categories:

Screening trials to determine crop tolerance and susceptibility of major weed species.

Weed control for corn with little or no tillage after soybeans.

Weed control for acreage conservation reserve (ACR) - set-aside.

Control of legume sod for no-till corn.

Control of grass and of legume sod for no-till soybeans.

Control of wheat and rye for no-till soybeans and corn.

Control of fall panicum in reduced tillage systems for corn.

Incorporation studies.

Improving control of specific weed species.

Evaluation of postemergence for corn.

Evaluation of postemergence for soybeans.

Weed control for no-till soybeans.

Persistence of DPX-F6025 as affected by pH and tillage.

Residue study with Command, Scepter, and Pursuit

Soybean tolerance and residue study with Command, Scepter, Pursuit and DPX-F6025.

## Screening Trials

Approximately 20 different crop hybrids and varieties are included to check crop tolerance as well as most all of the major annual broadleaf and grass weeds common to Illinois to determine degree of susceptibility. There are 48 herbicide treatments plus 2 untreated checks.

Amiben as a standard was up to its usual good performance on annual grasses and several broadleaves. Cinch did relatively well on annual grasses, demonstrated weakness on pigweed, and most broadleaves, but did have some activity on velvetleaf. The addition of metribuzin, Scepter, or Command broadened weed spectrum. However, Cinch and Command were both weak on pigweed.

With Command, a study of a range of rates indicated the need for the higher rates for most weeds other than velvetleaf. Although Command does a good job on annual grasses and many broadleaves, it offers no new hope for morningglory and by itself only suppresses cocklebur. Command alone was not good enough on nightshade, but with several combinations, it did well. Most combinations solved the pigweed weakness of Command. A combination of Command plus a reduced rate of metribuzin has potential for reducing soybean injury from metribuzin while broadening the spectrum to include even cocklebur. A three-way combination with reduced rates of Command, metribuzin, and a low-cost DNA didn't miss much except morningglory and cocklebur. These two weeds are not problems in all fields and could be controlled rather easily postemergence where they do exist.

Scepter performed relatively well, with acetanilides, a DNA, or Command strengthening grass control. The effect on annual morningglory was greater than with most other soil-applied herbicides. Although the label suggests incorporation of Scepter to improve control of nightshade, our results were quite good with a surface application. Combinations with Prowl or Command improved velvetleaf control as well as grass control. Scepter showed promise for helping on burcucumber.

Pursuit has generally performed better than Scepter but still needs help for grass. When applied postemergence, there was a dramatic difference in crop response between Scepter and Pursuit. Pursuit caused less injury to corn but greater injury to sorghum. The possibility of using a reduced rate of Pursuit and its greater corn tolerance suggest Pursuit is less likely than Scepter to have residual effects on corn.

SAN 582H gave excellent control of annual grasses and was active on some broadleaf weeds, but corn tolerance may merit further study. Except for morningglory and cocklebur, Turbo (metribuzin plus metolachlor) provided very good broad spectrum control.

Classic's main strengths are on pigweed, cocklebur, jimsonweed, smartweed, common ragweed, and common sunflower. It is weak on velvetleaf, only fair on annual morningglory, and of no significant help on lambsquarters. Classic may help on nutsedge but is not intended for grass control. Some effect on soybeans may be noted. Although the active ingredient can affect corn, it does not control volunteer corn.

Although Canopy gave relatively good broad spectrum control in these trials, restrictions on subsequent crops essentially rule it out for this section of the state unless soybeans will definitely follow soybeans.

### Corn in Soybean Stubble

Although continuous no-till is not widely used in the state, an increasing number of farmers are chisel plowing after corn but leaving soybean stubble over winter. This can be a giant step forward for protecting land resources. Modern planters and the current herbicide arsenal offer significant opportunity for no-till corn in soybean stubble or one or two pass incorporation can be used for herbicide applied to the stubble.

Although this practice was already being adopted by innovators and early adopters, we evaluated it in both 1985 and 1986 at DeKalb to help verify the feasibility. Fifteen different herbicide treatments were used each year. Weed control was quite good with all treatments. Corn yields ranged from 203 to 212 bu/A in 1985 and from 174 to 183 bu/A in 1986, with no significant difference between any of the 15 herbicide treatments either year. One pass incorporation of Eradicane applied to the stubble performed very well with one of the top yields resulting. However, the tillage for one or two pass incorporation had no significant advantage over no-till.

In another study on different soils at Elwood, yields for corn following soybeans were 156, 153, and 149 bu/A, respectively, for chisel, disk or zero

tillage for the soybean stubble. This suggests the possibility of a slight advantage for tillage of soybean stubble on some fields. However, these differences were not statistically significant.

#### Weed Control for ACR (Acreage Conservation Reserve) Land Set-Aside from Production

With the PIK program of 1983, many did not take weed control very serious and many assumed that set-aside would be short-term for a year or so. As we enter the fifth continuous year for set-aside, many farmers, as well as landlords and managers, are taking management of set-aside land more seriously. And at least some industries, dealers, and applicators are developing an interest in potential for seed and herbicide sales on between 2 and 3 million acres of set-aside land in Illinois in 1987.

The program we have developed based on our research for several years is detailed in other publications and in media releases. There is potential for herbicides such as 2,4-D, Banvel, and perhaps Hoelon on some acreage seeded to small grain. Gramoxone and Roundup have potential for some fields. Where alfalfa or clover are used, there is potential for dinitroanilines with Treflan already labeled. A price reduction for Eptam and Genep might stimulate interest in them.

Having evaluated some of the above rather extensively, our primary research effort in 1986 was with additional studies on postemergence herbicides for control of grass in alfalfa and clover. Results at Monmouth with 8 different herbicides were excellent. Results with later treatments at Perry-Orr were a little more variable. In several trials we have noted no significant antagonistic effect from 2,4-DB added to the grass control herbicides. We are interested in reexploring feasibility of 2,4-D for weed control in alsike and ladino clover to reduce cost.

#### Control of Legume Sod for No-Till Corn

Although we have relatively little continuous no-till in Illinois, there are some farmers who prefer no-till and with good management might be relatively successful. Since weed control is more crucial with no-till and we did not have adequate answers for some of the questions, we began placing increased emphasis on this in our research several years ago. We tried no-till corn in various kinds of cover crops. Although some perennial grasses can present a significant challenge, we were quite impressed with corn no-till in clover or alfalfa sod.

We determined that shallow rooted clovers could be controlled with the triazines. Banvel was quite effective on both alfalfa and clover while 2,4-D could be used for alfalfa and some clovers. We had relatively good yields for no-till corn in legume sod up to about 170 or 180 bushels per acre.

In 1986, we continued to evaluate some of the previous treatments and added some new herbicides and formulations. We also tried to determine the

degree of need for adding a herbicide such as Dual for grass control. And, we included some moldboard plow treatments for direct comparison.

These are some of the things we observed in 1986 to reconfirm or add to previous observations. The triazines do not control dandelion and 2,4-D is better than Banvel for dandelion. Although not always needed, a herbicide such as Dual can sometimes be very beneficial. Prowl can provide low cost grass control surface applied for no-till corn but be certain the corn seed is adequately covered.

Tillage stimulates velvetleaf. Marksman performed well and appeared to help improve grass control but as would be expected, was not adequate alone on grass. The encapsulated formulation of Eradicane may have some potential for no-till but results were not conclusive.

At DeKalb, corn yields were significantly higher for moldboard plowing with plowed plots yielding 180 and 189 bushels of corn per acre for alfalfa and clover sod, respectively. In the same study, highest yields of corn for no-till were 157 and 168 bu/A, respectively, for alfalfa and clover sod. A serious dandelion problem likely contributed to these differences.

The reverse was true at Elwood with the plowed treatment for clover sod having the low yield of 144 bushels per acre of corn and yields for no-till ranging from 147 to 159 bu/A. In alfalfa sod, the plowed treatment yielded only 130 bu/A while the best no-till treatment yielded 154 bu/A.

Thus, we would conclude that with good management, yields from no-till corn in legume sod can be quite favorable. However, especially when problem weeds are present, tillage may sometimes be advantageous.

Planting corn no-till in legume sod following set-aside, hay or pasture can be successful. Having pure legume stands without perennial grass or a lot of problem weeds can help greatly to achieve success and keep cost reasonable. Such ideal conditions may not exist in some fields.

Based on our research experience and interactions with farmers, we do not anticipate no-till planting of corn in legume sod to gain rapid acceptance even though it can be one way to reduce production costs. For those innovators, early adopters, good managers and conservation minded no-tillers interested in this practice, we believe, based on our research and experience and that of others, that we have a workable program. However, for the majority of farmers who prefer tillage for legumes before planting -- their opinion may often be quite appropriate. One final word of caution to the no-tillers -- watch out for mice or similar rodents. They usually have not been a significant problem for us where land in the area is mostly corn or soybeans. However, in 1985 at Perry-Orr their effect was devastating in an area with more cover.

Having developed a workable program for those who wish to use it, we will likely decrease the degree of effort on this phase of our research and move on to existing ventures.

A study in 1986 at Elwood with Lontrel and Starane suggested very good potential for these two herbicides for control of both clover and alfalfa for

no-till planting of corn. A rate of 0.5 lb/A of either Lontrel or Starane appeared near optimum for control of red clover while rates may need to be a little higher for alfalfa. No corn injury was noted from either herbicide and corn yields increased as rates were increased for improved control.

#### Control of Grass Sod for No-Till Soybeans

With the advent of herbicides such as Roundup and the new postemergence herbicides for grass control in soybeans, there appeared to be some new opportunities for no-till soybeans in grass sod. After some preliminary research a few years ago, we selected Verdict as one with perhaps the greatest potential, although Assure might also be one of the top contenders.

In our research we initially included orchardgrass, smooth brome grass and tall fescue. More recently we dropped tall fescue and included timothy as one that might be relatively easy to control.

Early work suggested that about 0.38 lb/A rate of Verdict might be appropriate for control of perennial grass. And at this rate we noted very dramatic preemergence effect for control of annual grass. Although research results have been quite interesting, this relatively high rate could perhaps place cost near that of Roundup, depending on how Verdict is eventually priced.

In our 1986 research at DeKalb we had timothy, smooth brome grass and orchardgrass that had been established in 1985. Although it would likely be more effective in the fall, 2 lb/A of Roundup appeared to be minimal and gave better control of timothy and orchardgrass than of brome grass. Although it performed better in some other studies, Ignite was not as effective as Roundup in this trial. Assure gave fair results and Select was similar. Verdict gave excellent control of all three grass species and the highest yields -- up to 44 bu/A of soybeans.

For those interested in this approach, especially as a soil conservation measure, our research suggests that relatively good success can be achieved but cost could be relatively high. We have used Dual and metribuzin with all treatments. However, with soil activity of Verdict, other preemergence for grass control might be eliminated. Further work with fall treatments might be considered.

#### Control of Legume Sod for No-Till Soybeans

Use of alfalfa and clover on set-aside has been encouraged and offers potential for no-till corn the year following set-aside. However, some farmers indicate that where they have set-aside, they would normally have had corn so wish to follow with soybeans to return to their normal cropping sequence. One answer is to leave the legume for two years. However, a few have planted soybeans in clover and then asked how to kill the clover.

In an attempt to provide an answer for this question, in a study at DeKalb, we used fall applications of 2,4-D and Banvel. In addition to determining appropriate rates for control, we were also interested in possible effects on soybeans planted the next spring. As might be expected, there appeared to be some movement of Banvel within the plot area that may have confounded the experiment a little.

Excellent control of alfalfa and clover was achieved on all plots. There were no significant differences in soybean yields between treatments for either alfalfa or clover. However, the highest yields were from plots where the highest rate of Banvel had been used. And yields of over 50 bu/A suggest that although some early symptoms from Banvel were noted on the soybeans, there did not appear to be any adverse effect on yield.

In a somewhat similar study at Elwood, we also included Roundup in the fall and also Roundup and 2,4-D in the spring. The only soybean injury noted in these plots was from 2,4-D applied a week before planting.

Fall treatments all gave excellent control of red clover and relatively good control of alfalfa. Roundup was about twice as effective in the fall as in the spring. The 2,4-D was also more effective in the fall than in the spring.

Among the fall treatments, there was no significant difference in soybean yield for either alfalfa or clover. However, yields for some of the spring treatments were reduced.

With soybean yields up to 56 bu/A, this study suggests the feasibility of planting soybeans no-till after clover or alfalfa if one desires to do so. However, it is best to plan ahead and treat the clover or alfalfa in the fall. While some may say planting soybeans instead of corn after alfalfa or clover would be wasteful of nitrogen, others say that with the current relatively low cost of nitrogen, this may not be a very significant concern.

While there was no direct comparison within this experiment with conventional tillage, soybeans in an adjacent area with tillage yielded 47 bushels per acre compared to a range of 47 to 56 for the fall treatments in this study.

It may be worth noting that at both DeKalb and Elwood, soybean yields tended to be higher following clover than following alfalfa.

#### Control of Wheat and Rye for No-Till Soybeans or Corn

During the winter of 1985-86, there was considerable winter injury to winter wheat. In the spring, some farmers asked how they could control the remaining wheat for no-till corn or soybeans. Fortunately, wheat and rye had been established at Elwood in the fall of 1985 so we could evaluate treatments for controlling these when used as cover crops for conservation purposes.

For soybeans, Dowpon applied a week before planting gave fair control of wheat and rye but significant soybean injury and yields were reduced. With

Roundup, wheat and rye control was increased and soybean yields increased as Roundup rates were increased up to 1 lb/A. Ignite was generally a little less effective than Roundup in this study. Gramoxone at 0.5 lb/A gave fairly good control of wheat and rye, resulting in relatively good yields. Best control of wheat was achieved with Fusilade, Verdict and Assure. Best control of rye was with Assure.

For corn, relatively high rates of atrazine or Bladex, alone or combined, gave relatively good control of wheat and rye and generally good yields. However, addition of Gramoxone to the triazines improved control. Yields ranged up to 180 bu/A for corn in wheat and up to 167 bu/A for corn in rye. These corn yields were indicated as being about the highest ever achieved at this research center, further suggesting the feasibility of this practice.

#### Control of Fall Panicum in Reduced Tillage Systems for Corn

Where corn is grown continuously with no-till, fall panicum frequently becomes a problem. Field observations suggest that the small panicum seeds filter through the crop residue and that the moist microclimate beneath the residue is very conducive to the shallow germination of these seeds. Atrazine has not given good control.

In this long-term study with various tillage practices, we began studying panicum and its control several years ago. As the data indicates again this year, regardless of what the tillage has been the previous year, when no tillage is used, panicum tends to increase. Some form of tillage along with herbicides enhances control. The major challenge has been control for no-till.

In previous years, a preemergence application of Lasso or Dual followed by an early postemergence treatment of Bladex, possibly with Prowl added to extend control, has been relatively successful. In an earlier study with Tandem, it appeared that panicum was more difficult to control than giant foxtail.

In 1986, we decided to include Princep which has generally done better than atrazine for panicum. We also evaluated an encapsulated formulation of Eradicane, evaluated Tandem used with Bladex and also included Prowl.

Compared to a check plot that had dense panicum and yielded only 62 bu/A of corn, the four herbicide treatments all performed relatively well with a mean yield of 118 bu/A. Although results are not considered conclusive, the encapsulated formulation of Eradicane appears to merit further evaluation. As anticipated, Princep performed well for this purpose. Tandem plus Bladex appeared to perform well although a direct comparison with Bladex alone was not made. A preemergence application of Eradicane (encapsulated) or of Princep followed by an early postemergence application of Bladex and Prowl did well with possibly a slight advantage for Princep compared to Eradicane.

## Incorporation Studies

Regular emulsifiable concentrate formulations of Sutan+ and Eradicane were compared with encapsulated formulations. The emulsifiable concentrates alone and with atrazine were also impregnated on dry fertilizer and performance evaluated. Marathon was also evaluated. Comparisons were made for all herbicide treatments surface applied, incorporated 1X and incorporated 2X. With about 0.5 inch of rain about 5 hours after application, all treatments gave very good weed control. Results with the EC and the encapsulated formulations of Eradicane were quite similar. Degree of weed control with the encapsulated formulations of Sutan+ were slightly less than with the EC. Weed control with Marathon was very good and similar to that of Eradicane. Results with the herbicides were quite similar whether sprayed or impregnated on dry fertilizer and then applied. Addition of atrazine gave a little improvement in weed control. Incorporation once or twice generally gave no increase in corn yields compared to surface applications and mean yields for 1X and 2X incorporation were nearly the same with no advantage for 2X.

## Improving Control of Specific Weed Species

### Velvetleaf and Pigweed

Command was outstanding on velvetleaf but needed help on pigweed, so we attempted to delineate rates for designing combinations. On relatively dark soils 3/8 to 1/2 lb/A a.i. of Command alone appeared to be adequate for control of velvetleaf, and perhaps a slightly lower rate would be adequate when considering additive effects for combinations. Although many compounds offer potential for strengthening control of pigweed, some of the more promising seem to be metribuzin, Scepter, Pursuit, and chlorimuron ethyl -- the active ingredient of Classic.

### Lambsquarters

Because many of the postemergence treatments provide weak control of lambsquarters, we studied possibilities for improved control. Soil-applied treatments such as Amiben, metribuzin, Command, and Scepter all performed well, and the acetanilides gave some help. When postemergence treatments were applied to one-inch lambsquarters, Basagran performed better than anticipated, crop oil had a slight edge over 28 percent nitrogen, and Blazer was a little weaker. The weakness of Classic on lambsquarters was quite dramatic. Soil-applied treatments still appear to be our major defense against lambsquarters.

## Evaluation of Postemergence for Corn

Results with Tandem plus atrazine or Bladex were generally relatively good. Marksman performed well. Results suggested that it is still often desirable to consider postemergence treatments complementary to earlier soil-applied treatments, especially for control of grass weeds.

### Evaluation of Postemergence Treatments for Soybeans

Postemergence studies for soybeans were included at DeKalb, Elwood, and Perry-Orr. In one DeKalb study with velvetleaf predominant, Basagran with 28 percent nitrogen and Cobra with X-77 gave the best control. Blazer plus 10-34-0 gave better control than Tackle with X-77.

In studies with Cobra and various additives, excellent control of a broad spectrum of broadleaf weeds was achieved. However, in other studies at Monmouth, control of lambsquarters was weak. Cobra caused injury on about the first three trifoliolates, but soybeans generally appeared to outgrow this early season injury. Use of 10-34-0 appeared to result in less injury than some other additives.

### Weed Control for No-Till Soybeans

Although results with little or no tillage for corn after soybeans have been very encouraging, no-till soybeans after corn present somewhat more of a challenge. Many farmers rotate tillage, with chisel plowing, for example, after corn and then using less tillage for soybean stubble prior to planting corn. However, with some increased interest in conservation of our land resources and an expanding herbicide arsenal, particularly for soybeans, we continue research in this area in hopes of developing improved systems for the future.

In 1987 at DeKalb, results with no-till drilled soybeans were rather encouraging. Metribuzin plus Dual, primarily as a preemergence treatment, did well. The area had a very heavy infestation of giant foxtail. For burndown we used a variety of treatments with good results. For eight different postemergence herbicides for grass, control ranged from 96 to 100 percent except for one treatment at 87%. Yields for these were in a narrow range from 41 to 44 bu/A. Roundup did well with 98% control of grass and a yield of 44 bu/A. Lorox as a burndown also gave good control. Ignite was the best treatment with excellent control of foxtail and of perennials and the high yield of 50 bu/A. Gramoxone performed quite well with the next highest yield of 48 bu/A.

At Perry-Orr we were generally not quite as successful but one of the best treatments was Poast plus 2,4-D for burndown and Dual plus metribuzin for residual. We considered the possibility of a herbicide such as Verdict for grass and Scepter or Canopy for broadleaves with each giving both burndown and residual. Verdict plus Canopy did well. Scepter did fairly well but demonstrated some weakness on lambsquarters which had already emerged. Gramoxone or Roundup plus Dual and metribuzin also performed well.

### Persistence of DPX-F6025 as Affected by pH and Tillage

An experiment was established at Elwood in 1986 with three different tillage systems, three pH levels, and a corn-soybean sequence. In addition to

the check with no DPX-F6025, rates of 0.5, 1.0 and 1.5 oz a.i./A were used preemergence on soybeans. Measures were taken attempting to keep the plots weed-free. No significant effect was noted on the soybeans from DPX-F6025 and yields were in a narrow range of 46 to 48 bu/A for the check and three herbicide treatments as well as for the three pH levels. Corn is to follow the soybeans in 1987 to study the potential for residual effect of DPX-F6025 on corn.

#### Residue Study with Command, Scepter and Pursuit

A study was established at DeKalb in 1985 with Command, Scepter and Pursuit on soybeans, using four rates of each herbicide plus a check. Rates ranged from approximately 1/2 to 2X. In 1986, corn was planted no-till directly in the old soybean rows. Plots were maintained completely weed free both years. In 1985, no significant effects were observed on the soybeans. In 1986, height of corn, stand counts and corn yields were taken as well as visual observations of possible effect on corn. Compared to the check, there was no significant effect on corn height when about 2.5 feet tall. Corn plant populations for the above herbicide treatments ranged from 23.9 to 25.2 thousand/A and very slight differences were not interpreted as being of much significance.

This was our first experience with this plot area. It appeared to be quite uniform but soil tests after the study was in progress indicated considerably more variability than we anticipated and some exceptionally high pH levels. Unfortunately crazytop became serious in the corn in 1986 to further confound the experiment and reduce yields. The error term from statistical analysis was quite large. There was no very conclusive evidence of significant effect on corn yield. However, some effect on corn was observed in one Command plot with a 2X rate and pH of 8. The corn yield trend for Scepter, as well as a previous study, suggested the advisability of further research.

#### Soybean Tolerance and Residue Study with Command, Scepter, Pursuit and DPX-F6025

In 1986, studies were established at DeKalb, Monmouth, Urbana, and Belleville to investigate the effect of the above four herbicides applied preemergence to soybeans at up to approximately 2X rates except at Belleville where the range was beyond 2X. Fields will be planted to corn in 1987 to determine possible residual effect of these herbicides on corn.

The only effects considered to be of significance for soybeans in 1986 were at Monmouth with a 2X rate of Scepter and with the 1.0 and 1.5 oz/A a.i. rates of DPX-F6025.

Considering the characteristics of these herbicides, current application technology, research conducted thus far, the multitude of other variables and past experience, it should not be too surprising if there is some effect noted in some fields from some of these herbicides. However, "the most difficult thing to predict is the future."

# SCREENING TRIALS FOR NORTHERN ILLINOIS

Ellery L. Knake, William S. Curran, Lyle E. Paul, and Ann M. Carrick

The primary purpose of this study conducted each year is to evaluate relatively new herbicides for crop tolerance and for efficacy on most of the major annual weeds common to Illinois. The study is also designed to yield information on threshold level of herbicides on specific weed species and to aid in design and evaluation of herbicide combinations. The study was conducted on field SW700 at the Northern Illinois Agronomy Research Center near DeKalb on Drummer silty clay loam with 6% organic matter and a pH of about 6.5. Individual crops and weed species are planted in separate rows using a conventional four row planter for corn, soybeans and sorghum and a grain drill for oats and wheat. A Brillion seeder is used for alfalfa and red clover and for weed species except cocklebur, bur cucumber and giant ragweed which are hill planted using a hand planter. The field had been fall plowed, was in good tilth and in a high state of fertility. The field was disked once with a tandem disk with a harrow behind on April 22 and seeding done that day. Soil-applied herbicides were sprayed between 7:30 and 10:00 a.m. on April 23. Soil temperature was 50°F at the 4 inch depth and 45°F at the 8 inch depth. Air temperature ranged from 26 to 64°F for the day. Relative humidity was 23%. Wind was 10 to 15 mph from the SW. Sky was clear. There was no plant residue on the soil surface. A compressed air tractor mounted sprayer with flat fan nozzle tips was operated at 3 mph with 30 psi to give 25 gpa. There was 0.44 inch of rain about a week earlier and 1 inch about a week later.

0.37	0.07	-	-	-	-	-	-	-	-	-	-	-	T	-	0.24	0.25	0.52	-
-9	-8	-7	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6	+7	+8	

Postemergence treatments were applied May 23 from 2:30 to 2:45 p.m. with soil temperature of 61°F and air temperature range of 44 to 66°F for the day. Relative humidity was 80%, wind 0 to 3 mph from the east and cloud cover of 30%. The same equipment as indicated above was used. Stage of crop and weed growth was as follows (heights free standing):

	<u>Height inches</u>	<u>Number of True Leaves</u>
Corn	8	6
Sorghum	4	5
Soybeans	5	2 trif.
Wheat	2	7
Oats	10	4
Alfalfa	2	2 trif.
Clover	1.5	1 trif.
Gift	1.75	2
Yeft	1.5	3
Lacg	0.5	2
Grft	1.5	3
Shca	3.5	4

	<u>Height inches</u>	<u>Number of True Leaves</u>
Bygr	3.5	5
Rrpw	0.5	4
Colq	0.5	4
Vele	1	2
Jiwe	1	2
Tamg	1.5	2
Ebns	0.5	2 cot.
Cosf	1	2
Corw	1.5	4
Bucu	1	2
Girw	2.5	4

Ratings were made June 3, 1986. (University of Illinois at Urbana-Champaign)

Table 1. Screening trials - Northern Illinois, 1986 crops. (Knake, Curran, Paul, and Carrick)

Herbicides	Rate (lb/A)	Corn						Grain Sorghum		Wheat	Oats	Alfalfa	Red Clover
		FR23 x FR29		FR31 x FR20A		A632 x LH38		LH74 x LH123					
		Untreated	Screen	Untreated	Screen	Untreated	Screen	Untreated	Screen				
<u>Preemergence:</u>													
Pendimethalin	0.5	0	0	0	0	0	0	0	0	0	0	0	0
Pendimethalin	1.0	0	0	0	0	0	0	0	0	0	0	0	0
Chloramben	1.0	0	0	0	0	0	0	0	0	10	80	90	90
Chloramben	2.0	0	10	10	10	10	10	10	10	0	20	90	90
Chloramben	3.0	0	10	10	10	10	10	10	10	0	30	100	100
Alachlor	2.0	0	0	0	0	0	0	0	0	0	0	10	60
Alachlor	3.0	0	0	0	0	0	0	0	0	0	0	20	70
Acetachlor	2.0	0	0	0	0	0	0	10	0	0	10	30	70
Acetachlor	3.0	0	0	0	0	0	0	10	0	0	20	50	80
CGA-24704	1.5	0	0	0	0	0	0	20	10	10	20	10	50
CGA-24704	2.0	0	0	0	0	0	10	10	10	20	30	20	60
Cinmethylin	1.5	0	0	0	0	0	0	10	10	0	0	0	0
Cynmethylin + metr.	1.5 + 0.375	0	0	0	0	0	0	10	10	0	0	70	100
Cinmethylin + imazaquin	1.5 + 0.125	50	20	20	20	60	60	20	30	20	50	70	80
Cinmethylin + FMC-57020	1.5 + 1.0	50	10	20	20	10	10	10	10	30	60	60	70
FMC-57020	0.5	0	0	0	0	0	0	0	0	20	50	40	60
FMC-57020	1.0	0	0	0	0	0	0	10	10	30	60	60	70
FMC-57020	1.25	0	0	0	0	0	0	10	10	40	60	70	80
FMC-57020 + alachlor	1.0 + 2.0	10	10	10	0	0	0	10	10	40	70	70	90
FMC-57020 + metolachlor	1.0 + 2.0	10	10	10	10	10	10	20	20	50	70	70	90
FMC-57020 + pendimethalin	1.0 + 1.0	20	20	20	20	20	20	30	30	60	80	80	90
FMC-57020 + chloramben	1.0 + 1.0	10	10	10	10	10	10	30	20	40	70	90	100
FMC-57020 + chloramben	1.0 + 1.5	10	10	10	10	10	10	30	30	40	70	100	100
FMC-57020 + metribuzin	1.0 + 0.25	30	30	30	10	10	10	20	20	50	70	90	100
Imazaquin	0.125	30	30	30	30	40	40	10	10	30	50	80	80
Imazaquin + alachlor	0.125 + 2.0	30	30	30	30	40	40	10	10	30	50	80	80
Imazaquin + metolachlor	0.125 + 2.0	30	50	50	30	50	50	40	40	40	60	80	80
Imazaquin + pendimethalin	0.125 + 0.75	50	40	40	40	50	50	10	10	30	50	80	80
Imazaquin + pendimethalin	0.125 + 1.0	50	50	50	30	60	60	10	10	30	50	80	90
Imazaquin + chloramben	0.125 + 1.0	40	40	40	40	40	40	20	20	40	50	90	100

Table 1. Continued.

Herbicides	Rate (lb/A)	Corn						Grain Sorghum		Wheat	Oats	Alfalfa	Red Clover		
		FR23 x FR29		FR31 x FR20A		A632 x LH38		LH74 x LH123						Untreated	Screen
<u>Preemergence:</u>															
Imazaquin + chloramben	0.125 + 1.5	50	50	50	50	50	50	20	20	40	50	100	100		
Imazaquin + metr.	0.125 + 0.25	70	50	50	50	50	50	10	10	40	50	70	100		
Imazaquin + FMC-57020	0.125 + 0.75	70	40	70	70	70	70	10	10	70	70	90	90		
AC 263,499	0.047	0	0	10	10	10	10	20	20	40	40	70	70		
AC 263,499	0.094	0	0	20	20	20	20	20	20	50	60	80	70		
Metr. + pendimethalin	0.25 + 1.0	0	0	0	0	0	0	20	0	0	10	80	100		
Metr. + pendimethalin + FMC-57020	0.25 + 1.0 + 0.25	30	10	10	10	10	10	10	10	50	30	90	100		
FMC-57020 + DPX-F6025	0.75 + 0.5 oz	20	20	20	30	30	30	30	30	70	60	100	95		
Imazaquin + DPX-F6025	0.125 + 0.5 oz	70	60	50	60	40	40	40	40	60	50	90	100		
SAN 582H	1.5	20	10	10	20	10	10	10	10	30	10	70	80		
SAN 582H	3.0	20	10	10	20	10	10	10	10	40	20	80	90		
DPX-L8347	7.5 oz	60	30	30	40	60	50	50	50	60	50	100	100		
MFR 0184	2.5	30	10	10	20	10	10	10	10	20	0	100	100		
BAS-51400	0.5	20	10	10	20	10	10	10	10	0	0	100	100		
<u>Postemergence:</u>															
DPX-F6025 + X-77 0.25%	0.188 oz	10	10	10	10	40	40	30	40	30	40	60	80		
Imazaquin + X-77 0.25%	0.125	50	50	50	50	60	60	40	60	40	40	50	60		
AC 263,499 + X-77 0.25%	0.094	20	20	20	20	80	80	50	80	50	50	40	40		

Table 2. Screening trials - Northern Illinois, 1986 - weeds. (Knake, Curran, Paul, and Carrick)

Herbicides	Rate (lb/A)	Gift	Yeft	Grft	Lacg	Bygr	Shca	Rrpw	Vele	Jiwe	Iimg	Ebns	Cosf	Girw	Cocb	Bucu
<u>Preemergence:</u>																
Pendimethalin	0.5	50	40	50	50	60	40	90	40	30	40	10	0	0	0	0
Pendimethalin	1.0	80	80	70	100	70	50	90	50	30	50	20	0	0	0	0
Chloramben	1.0	70	90	80	60	60	70	90	70	0	10	10	0	10	0	0
Chloramben	2.0	90	100	100	90	70	80	100	90	30	20	30	0	50	0	0
Chloramben	3.0	100	100	100	100	80	90	100	100	60	30	50	0	90	0	0
Alachlor	2.0	90	80	80	100	60	30	90	20	20	0	100	0	10	0	0
Alachlor	3.0	100	90	90	100	70	40	100	30	40	0	100	10	20	0	0
Acetachlor	2.0	100	100	100	100	90	60	100	40	80	0	100	0	30	0	0
Acetachlor	3.0	100	100	100	100	100	70	100	40	90	0	100	10	50	0	0
CGA-24704	1.5	100	100	90	100	80	20	90	70	30	0	70	0	0	0	0
CGA-24704	2.0	100	100	100	100	90	30	95	70	70	0	80	0	0	0	0
Cinmethylin	1.5	80	80	80	100	80	80	60	80	0	0	0	0	10	0	0
Cinmethylin + metribuzin	1.5 + 0.375	90	90	90	100	80	70	70	100	100	40	--	100	50	70	80
Cinmethylin + imazaquin	1.5 + 0.125	100	100	80	100	90	70	100	80	80	80	100	100	100	80	60
Cinmethylin + FMC-57020	1.5 + 1.0	100	90	80	100	95	70	70	100	100	0	50	50	10	70	0
FMC-57020	0.5	80	60	50	50	80	50	40	90	90	0	30	30	20	70	0
FMC-57020	1.0	90	90	60	80	90	60	50	90	90	0	50	40	30	70	0
FMC-57020	1.25	90	90	70	90	90	70	60	100	90	0	70	50	40	70	0
FMC-57020 + alachlor	1.0 + 2.0	95	100	90	100	100	80	90	95	90	0	100	50	50	80	0
FMC-57020 + metolachlor	1.0 + 2.0	100	100	90	100	100	80	90	100	90	0	100	50	50	80	0
FMC-57020 + pendimethalin	1.0 + 1.0	100	100	80	100	100	90	95	100	100	40	--	50	60	80	0
FMC-57020 + chloramben	1.0 + 1.0	100	100	100	100	100	90	100	100	100	10	--	50	50	80	0
FMC-57020 + chloramben	1.0 + 1.5	100	100	100	100	100	90	100	100	100	20	--	50	60	80	0
FMC-57020 + metribuzin	1.0 + 0.25	100	100	100	100	100	90	100	100	100	20	--	50	90	100	80

Table 2. Continued.

Herbicides	Rate (lb/A)	Gift	Yeft	Grft	Lacg	Bygr	Shca	Rrpw	Vele	Jiwe	Ilmg	Ebns	Cosf	Girw	Cocb	Bucu
Imazaquin	0.125	90	90	80	80	60	70	100	90	100	70	100	100	70	80	80
Imazaquin + alachlor	0.125 + 2	100	100	100	100	70	70	100	90	100	70	100	100	90	80	80
Imazaquin + metolachlor	0.125 + 2	100	100	90	100	90	80	100	90	100	70	100	100	90	80	80
Imazaquin + pendimethalin	0.125 + 0.75	100	90	90	100	70	80	100	90	100	80	100	100	90	80	80
Imazaquin + pendimethalin	0.125 + 1	100	90	90	100	70	80	100	100	80	80	100	100	90	90	80
Imazaquin + chloramben	0.125 + 1	100	100	100	90	80	90	100	100	90	80	100	100	90	90	80
Imazaquin + chloramben	0.125 + 1.5	100	100	100	95	85	90	100	100	100	80	100	100	90	90	80
Imazaquin + metribuzin	0.125 + 0.25	90	90	100	100	80	70	100	100	100	80	100	100	95	90	90
Imazaquin + FMC-57020	0.125 + 0.75	100	100	90	100	100	90	100	100	100	80	100	100	100	80	80
AC-263,499	0.047	70	60	70	80	80	80	100	90	100	80	90	100	95	20	30
AC-263,499	0.094	80	70	80	90	90	95	100	100	100	80	90	100	95	40	40
Metribuzin + pendimethalin	0.25 + 1	90	100	90	100	90	60	100	100	100	60	--	100	95	30	100
Metribuzin + pendimethalin + FMC-57020	0.25 + 1 + 0.25	100	100	100	100	100	100	100	100	100	60	--	100	100	50	100
FMC-57020 + DPX-F6025	0.75 + 0.5 oz	100	100	90	100	100	100	100	100	100	80	--	100	95	50	90
Imazaquin + DPX-F6025	0.125 + 0.5 oz	100	100	90	90	100	100	90	100	100	90	--	100	100	80	90
SAN 582H	1.5	100	100	80	100	100	40	100	70	100	20	--	0	0	20	0
SAN 582H	3.0	100	100	100	100	100	50	100	70	100	20	--	0	30	40	0

Table 2. Continued.

Herbicides	Rate (lb/A)	Gift	Yeft	Grft	Lacg	Bygr	Shca	Rrpw	Vele	Jiwe	Iimg	Ebns	Cosf	Girw	Cocb	Bucu
DPX-L8347	7.5 oz	100	100	100	100	100	95	100	100	100	80	--	100	100	90	90
MFR 0184	2.5	100	100	100	100	100	60	100	100	100	10	--	100	100	70	95
BAS 51400	0.5	100	90	100	100	50	40	90	70	100	80	--	0	95	0	0
<u>Postemergence:</u>																
DPX-F6025 + X-77	0.188 oz + 0.25%	--	40	20	70	70	70	100	80	100	70	--	100	80	80	0
Imazaquin + X-77	0.125 + 0.25%	--	80	90	90	80	80	100	60	100	10	--	100	90	90	100
AC-263,499 + X-77	0.094 + 0.25%	--	100	100	100	90	100	100	70	100	10	--	100	90	90	0

## CORN AFTER SOYBEANS WITH NO TILLAGE OR REDUCED TILLAGE

Ellery L. Knake, Lyle E. Paul, and William S. Curran

The primary purpose of this study was to determine the feasibility of planting corn in soybean stubble using no tillage or cultivation. In addition, EPTC plus atrazine was applied directly to the soybean stubble and one pass and 2 pass incorporation used. The study was established on field SW800 at the Northern Illinois Agronomy Research Center near DeKalb on Drummer silty clay loam with organic matter of 6% and pH of 6. The soil test for  $P_1$  was 53 and for K was 318. Ammonium nitrate was applied to give 240 lb/A nitrogen. A randomized complete block design with four replications was used. Pioneer Brand 3475 corn was planted two inches deep in 30 inch rows May 3, for 28,000 plants per acre. Herbicides were applied nine days earlier on April 24 from 7:30 to 9:00 a.m. Soil temperature was 52°F at the 4 inch depth. Air temperature ranged from 39 to 80°F for the day. Relative humidity was 25% and wind was 10 to 15 mph from the south. Sky was clear. Soil cover from crop residue was estimated at 25%. A tractor mounted compressed air sprayer unit was used with flat fan nozzle tips, 30 psi and 3 mph to give 25 gpa. For incorporation, a tandem disk with harrow behind was used. Ratings were made June 5. There was 0.37 inch of rain April 14 and 0.07 April 15. On April 28, 29, and 30 there was 1.01 inches during the three day period. Stand counts and height measurements were made July 22. Control was quite good from all herbicide treatments for all annual weed species but control of velvetleaf a little less than for the others. There was very little variation in corn height but there appeared to be some variation in plant population. With about nine million acres of soybeans and ten to eleven million acres of corn in Illinois, corn commonly follows soybeans. Using a tillage rotation with chisel plowing after corn and no tillage after soybeans appears to be quite practical. Such a practice could significantly reduce cost of production while also conserving soil. With similar herbicide treatments in 1985, corn yields ranged from 203 to 212 bu/A. In 1986, results were also quite good, further confirming the feasibility of this practice. In 1986, the one and two pass incorporated treatments with EPTC plus atrazine indicated the feasibility of application directly to the soybean stubble and minimal soil disturbance for incorporation. No row cultivation was used. (University of Illinois at Urbana-Champaign)



## CORN NO-TILL IN CLOVER AND ALFALFA SOD IN NORTHERN ILLINOIS

Ellery L. Knake, Lyle E. Paul, and William S. Curran

The purpose of this study was to further evaluate the feasibility of planting corn no-till in legume sod that had been used for set-aside or livestock purposes. Similar studies have been conducted for several years with relatively good success but this is the first year conventional tillage was included in the design for comparison. The study was conducted at the Northern Illinois Agronomy Research Center near DeKalb on plot area SW600 with Drummer silty clay loam having about 6% organic matter. The entire area received 180 lb/A nitrogen as ammonium nitrate in the spring of 1986. Considering some contribution of nitrogen from the legumes, this amount of nitrogen should preclude it being a limiting factor on yields. Herbicide treatments were applied April 23, 1986 from 2:30 to 3:30 p.m. for the clover and 3:30 to 4:30 p.m. for the alfalfa. The legumes were actively growing. Soil temperature was 50°F at the 4 inch depth, air temperature 60°F, and relative humidity 25%. Wind was south at 15 mph with sky clear. A tractor mounted compressed air sprayer was used with flat fan nozzles, 30 psi and 3 mph to give 25 gpa spray volume. There was 0.44 inch of rain about a week before herbicides were applied and about 1 inch during the 5 to 7 day period after application. Pioneer Brand 3450 corn was planted May 3 in 30 inch rows for a population of 28,000 per acre. The design was a RCB with four replications. Ratings on control of the legumes and weeds were made June 4. Excellent control of annual grass and broadleaf weeds was achieved with all treatments. Control of clover was excellent with all treatments as was control of alfalfa except with glyphosate. Common dandelion was the major weed problem; triazines had little effect on it and dicamba gave only partial control. Glyphosate was more effective than dicamba but 2,4-D was most effective for control of dandelion. Corn was a little taller and higher plant populations maintained with conventional tillage compared to no-till. No significant rodent damage was noted. As indicated in previous studies, the triazines can effectively control shallow rooted clover as well as giving control of annual weeds. Dicamba is effective on both clover and the deeper rooted alfalfa and at rates used appeared to have significant preemergence effect. The Marksman formulation of dicamba plus atrazine performed well. And where pendimethalin was applied prior to planting no significant effect on the corn was noted. However, caution should be considered if the herbicide is to be applied after planting and the slit is not closed well. Although not studied in detail, the legume mulch may deserve partial credit for the good control of annual weeds. The lack of good dandelion control with many of the treatments was rather dramatic and should be considered in management for no-till. (University of Illinois at Urbana-Champaign)

Table 1. Corn in alfalfa sod - northern Illinois. (Knake, Paul, and Curran)

	lb/A a.i.	% Control 6/4			6/26 Corn Ht. Inches	Corn Plants per Acre Thousands	bu/A
		Alfalfa	Dandelion	Annual Grass			
Dicamba + 2,4-D + metolachlor	0.5 + 0.5 + 2	100	90	100	36	20.9	152.2
Dicamba + 2,4-D	0.5 + 0.5	100	88	100	34	23.2	149.8
Dicamba + metolachlor	0.25 + 2	100	100	100	39	27.0	179.7
Dicamba POST	0.5						
Dicamba + metolachlor	0.25 + 2	100	80	100	33	23.2	148.8
Dicamba POST	0.5						
Dicamba	0.25	100	80	100	32	19.7	145.1
Dicamba POST	0.5						
Dicamba + metolachlor	0.25 + 2	100	80	100	33	20.9	147.3
Dicamba + atr. POST	0.4 + 0.8						
Dicamba	0.25	100	80	100	33	20.6	142.3
Dicamba + atr. POST	0.4 + 0.8						
Dicamba + atr. + metolachlor	0.4 + 0.8 + 2	100	80	100	36	22.7	142.7
Glyphosate + alachlor + atr.	2 + 2 + 2	50	90	100	32	21.8	142.2
2,4-D + metolachlor + atr.	1 + 2 + 2	100	99	100	35	22.7	157.1
Glyphosate + atr. + alachlor + atr.	1.75 + 3.25 + 2	50	90	100	34	26.1	143.7
LSD 0.05		10.9	4.5	NSD	2.9	0.5	15.6

2,4-D - Butoxyethyl ester.

\*Moldboard plowed.

\*\*Marksman.

\*\*\*Bronco + atr.

Table 2. Corn in clover sod in northern Illinois. (Knake, Paul, and Curran)

	1b/A a.i.	% Control 6/4/86			6/26 Corn Ht. Inches F.S.	Corn Plants per Acre Thousand 7/21	bu/A
		Red Clover	Common Dandelion	Annual Grass	Annual BL		
Atrazine	3	100	0	100	100	32	22.7
Cyanazine	4	100	0	100	100	32	24.4
Atr. + cyanazine + metolachlor	1.5 + 1.5 + 1.5	100	100	100	100	41	27.9
Atr. + cyanazine + metolachlor	1.5 + 1.5 + 1.5	100	0	100	100	34	23.5
Atr. + cyanazine	2 + 2	100	0	100	100	33	21.8
Atr. + cyanazine	1.5 + 3	100	0	100	100	35	24.8
Atr. + metolachlor	3 + 2	100	0	100	100	33	23.5
Atr. + alachlor	3 + 2.5	100	0	100	100	34	21.3
Atr. + pendimethalin	3 + 1	100	0	100	100	33	23.5
Dicamba PRE	0.5	100	90	99	100	36	20.5
Dicamba POST	0.5						
Dicamba + metolachlor PRE	0.5 + 2	100	90	100	100	37	24.4
Dicamba POST	0.5						
LSD 0.05		NSD	0.05	NSD	NSD	3.0	0.4
							12.6

\*Moldboard plowed.

# EVALUATION OF HERBICIDES FOR CONTROL OF PERENNIAL GRASS FOR NO-TILL SOYBEANS

Ellery L. Knake, Lyle E. Paul, William S. Curran, and David R. Lindgren

The primary purpose of this study was to determine the efficacy of herbicides for control of some of the major domestic perennial grasses: timothy, smooth brome grass, and orchardgrass. The study was conducted at the Northern Illinois Agronomy Research Center near DeKalb on plot area SW500 with Flanagan silt loam and Drummer silty clay loam with 5 to 6% organic matter. A randomized complete block design with three replications was used. Herbicides were applied between 11:00 and 11:30 a.m., April 23, 1986 to perennial grasses established a year earlier. A tractor mounted sprayer was used with flat fan nozzle tips, 30 psi, and 3 mph to give 25 gpa. Soil temperature was 50°F at a 4 inch depth and grasses were green and actively growing. Air temperature was 55°F, humidity 25%, wind 10 to 15 mph, southwest and sky clear. There was 0.43 inch of rain about a week before treating and about 1 inch about a week after treatment. BSR 201 soybeans were planted in 30 inch rows, May 7, 1986. All plots were sprayed with 2 lb/A metolachlor and 0.5 lb/A metribuzin on April 23 and provided good control of annual weeds. Control of perennial grasses was rated June 24. Haloxifop gave excellent control of all species. DPX-Y6202 and RE45601 were less effective than haloxifop but about equal to glyphosate which was more effective than glufosinate. In general, timothy and orchardgrass were easier to control than brome grass in this study. (University of Illinois at Urbana-Champaign)

Table. Soybeans in grass sod. (Knake, Paul, Curran, and Lindgren)

	lb/A	% Control 6/24/86			Soybeans bu/A		
	a.i.	Timothy	Brome-grass	Orchard-grass	Timothy	Brome-grass	Orchard-grass
Glyphosate	2	90	50	90	30.3	24.3	41.2
Glufosinate	2	50	20	30	22.7	18.8	29.9
Haloxifop	0.4	100	100	100	38.2	38.3	43.6
DPX-Y6202	0.4	90	60	90	24.2	23.1	39.3
RE45601	0.4	90	50	100	32.7	23.2	41.6
LSD 0.05					9.0	7.7	8.0

On all plots: 2 lb/A metolachlor + 0.5 lb/A metribuzin 4/23/86.

# FALL APPLICATION OF DICAMBA AND 2,4-D FOR CONTROL OF ALFALFA AND MEDIUM RED CLOVER

Ellery L. Knake, Lyle E. Paul, William S. Curran, and David R. Lindgren

The primary purpose of this study was to determine appropriate control measures for alfalfa and red clover which precede soybeans. With acreage conservation reserve (ACR or set-aside) some farmers plant clover or alfalfa instead of corn and prefer to plant soybeans rather than corn the following year so they can resume their usual cropping sequence. The study was conducted at the Northern Illinois Agronomy Research Center near DeKalb on plot area SW500 with Flanagan silt loam and Drummer silty clay loam with 5 to 6% organic matter. Separate stands of Vernal alfalfa and medium red clover were established in the spring of 1985. Herbicides were applied to kill these legumes on September 27, 1985 when the clover and alfalfa were about 6 inches tall and green and actively growing. Soil temperature was 64°F at the 2 inch depth. Air temperature was 60°F and relative humidity 50%. Wind was calm and sky had 30% cloud cover. A tractor mounted compressed air sprayer system was used with flat fan nozzle tips, 30 psi, and 3 mph to give 25 gpa. On April 23, 1986, 2 lb/A metolachlor and 0.5 lb/A metribuzin was applied to the entire plot area to achieve annual weed control. The 2,4-D was butoxyethyl low volatile ester. BSR 201 soybeans were planted May 7, 1986 in 30 inch rows at a rate of 54 lb/A. The design was a randomized complete block with three replications. Excellent control of alfalfa and clover was achieved in the entire plot area; however, injury to soybeans was evident. There appeared to be some movement of herbicide across the plot area which confounded soybean injury ratings and makes it difficult to draw conclusions about the degree of injury and effectiveness of 2,4-D and the lower rates of dicamba. However, the results suggest that relatively low rates of dicamba applied in the fall should be effective for killing alfalfa and clover but there may be some risk of injury to soybeans planted the following spring, depending on rate of dicamba used. Using a combination of 2,4-D and a reduced rate of dicamba may provide a means for further reducing the risk. (University of Illinois at Urbana-Champaign)

Table. Soybeans after alfalfa and clover in northern Illinois. (Knake, Paul, Curran and Lindgren)

	lb/A a.i.	% Soybean Injury 6/5	% Control 6/5		Bu/A Soybeans	
			Alfalfa	Red Clover	Alfalfa	Red Clover
Dicamba	0.5	10	100	100	43.1	49.8
Dicamba	1.0	15	100	100	43.5	48.7
Dicamba	2.0	20	100	100	50.7	52.2
2,4-D	1.0	10	100	100	41.5	50.3
Dicamba + 2,4-D	0.5 + 0.5	10	100	100	49.7	52.0
LSD 0.05					10.5	4.4

2,4-D - Butoxyethyl ester.

On all plots: 2 lb/A metolachlor + 0.5 lb/A metribuzin 4/23/86.

# TRIDIPHANE AND TRIAZINES FOR POSTEMERGENCE WEED CONTROL IN CORN

Ellery L. Knake, Lyle E. Paul, and David R. Pike

The purpose of this study was to further evaluate and demonstrate the use of tridiphane to improve control of annual grass weeds in corn. The study was established at the Northern Illinois Agronomy Research Center near DeKalb on Drummer silty clay loam with about 6% organic matter. Ammonium nitrate was applied to give 240 lb/A nitrogen. Pioneer Brand 3475 corn was planted May 3 at a depth of two inches in 30 inch rows for an intended population of 28,000 plants per acre. Herbicides were applied May 23 between 1:30 and 2:30 p.m. using a tractor mounted compressed air sprayer with flat fan nozzle tips, 30 psi and 3 mph to give 25 gpa. Soil temperature was 61°F at the 4 inch depth and air temperature ranged from 44 to 66°F for the day. Relative humidity was estimated at 80%. Wind was 0 to 3 mph from the east and there was 30% cloud cover. Corn was 4 inches with three leaves, giant foxtail 1.5 inches with three leaves, Pennsylvania smartweed 2.5 inches with five leaves, and common lambsquarters 3 inches with nine leaves. A randomized complete block design with three replications was used. The same study was conducted in two adjacent areas with one having a relatively light weed infestation and the other a heavy infestation. Ratings were made June 5. Control of annual broadleaf weeds was quite good with most treatments. Tridiphane plus a triazine performed well, improving control of annual grass compared to a triazine without tridiphane. No significant crop injury was noted. Control was more difficult in the heavier infestation. (University of Illinois at Urbana-Champaign)

Table. Tridiphane and triazines for corn. (Knake, Paul, and Pike)

Treatment	lb/A	% Control					
		Light Infestation			Heavy Infestation		
		Gift	Colq	Pesw	Gift	Colq	Pesw
Weed-free Check		100	100	100	100	100	100
Tridiphane + atr. + COC	0.5 + 1.5 + 1 qt	98	100	100	80	100	97
Tridiphane + cyanazine	0.5 + 1.6	95	100	100	80	100	97
Tridiphane + atr. + cyanazine	0.5 + 0.8 + 0.8	96	100	100	80	100	97
Atrazine + COC	2 + 1 qt	92	100	100	57	100	97
Cyanazine + X-77	2 + 0.25%	97	100	100	77	97	90
Weedy Check		0	0	0	0	0	0
LSD 0.05		3.5	0.05	0.05	8.5	3.9	7.3

# POSTEMERGENCE HERBICIDES FOR CONTROL OF BROADLEAF WEEDS IN SOYBEANS

Ellery L. Knake, Lyle E. Paul, and David R. Pike

The purpose of this study was to compare several herbicides for both crop tolerance and weed control in soybeans. The study was conducted at the Northern Illinois Agronomy Research Center near DeKalb on Drummer silty clay loam with 6% organic matter. The previous crop was corn. Tillage prior to planting soybeans included use of a chisel plow, field cultivator and disk plus harrow. The design was a randomized complete block with treatments replicated four times and individual plots 10 ft x 50 ft. BSR soybeans were planted May 7 in 30 inch rows at a rate of 55 lb/A. Fluazifop-P at 0.2 lb/A with 1 qt/A COC was applied to the entire area for control of annual grass weeds on June 3. The herbicides for broadleaf weed control were applied June 5 between 9:00 and 9:30 a.m. Soil temperature was 68°F at the 4 inch depth. Air temperature ranged from 56 to 79°F for the day. Relative humidity was estimated at 70%. Wind was from the south at 5 mph and sky was clear. There had been 0.64 inch of rain May 26 and 0.29 May 29. There was 0.16 inch June 5 and 0.67 inch June 10. Soybeans were three inches with one trifoliolate and velvetleaf was 1.5 inches with two leaves. A tractor mounted compressed air unit with flat fan nozzles was used with pressure of 30 psi and at 3 mph to give 25 gpa. Ratings were made June 12. Velvetleaf was the major broadleaf weed present. Bentazon with nitrogen solution gave relatively good control and control with lactofen plus X-77 was nearly the same. Acifluorfen with 10-34-0 performed better than acifluorfen plus X-77. Control with fomesafen plus COC was similar to acifluorfen plus 10-34-0. Lactofen gave the most crop injury and bentazon the least. Soybeans appeared to outgrow the early season injury relatively well. (University of Illinois at Urbana-Champaign)

Table. Postemergence for soybeans. (Knake, Paul, and Pike)

Treatment	lb/A a.i.	Percent*		bu/A
		CI	Vele Control	
Bentazon + 28% N	1 + 1 gal	2	93	52.7
Acifluorfen + 10-34-0	0.5 + 1 qt	10	84	49.3
Acifluorfen + X-77	0.5 + 0.25%	10	65	44.5
Lactofen + X-77	0.2 + 0.25%	15	92	47.1
Fomesafen + COC	0.2 + 1 qt	10	80	44.9
Check - Untreated		0	0	39.8
LSD (0.05)		0.05	9.2	4.7

\*Ratings 6/12/86.

EVALUATION OF BUTYLATE AND EPTC WITH ENCAPSULATED FORMULATIONS,  
IMPREGNATED ON DRY FERTILIZER AND WITH SURFACE APPLICATION  
VERSUS ONE AND TWO PASS INCORPORATION

Ellery L. Knake, Barbara J. Hook, Lyle E. Paul, and David R. Pike

The purpose of this study was to evaluate several thiocarbamate herbicides as different formulations and impregnated on dry fertilizer. A comparison was made for surface application and one and two pass incorporation with a tandem disk with harrow behind. The study was conducted at the Northern Illinois Agronomy Research Center near DeKalb on plot area SW 1600 (W) with Drummer silty clay loam and Flanagan silt loam with about 5 to 6% organic matter and pH of 6.4. Soil was high in P and K with a  $P_1$  test of 68 and K test of 301. The field received 180 lb/A nitrogen and had been plowed the previous fall. Herbicides were applied May 13 between 9:30 and 11:00 a.m. and then incorporation done as specified. Herbicide treatments were randomized within blocks and replicated three times. Blocks were split for the incorporation treatments which were also randomized. Herbicides were applied with a tractor mounted compressed air sprayer with flat fan nozzle tips, 30 psi pressure, and 3 mph to give 25 gpa. There was 0.03 inch of rain two days earlier and 1.01 inches during the three day period 11 to 13 days earlier. Pioneer 3540 corn was planted early p.m. May 13 in 30 inch rows for a population of 28,000 plants per acre. There was 0.48 inch of rain the day of application beginning at 4 p.m. This was followed by 0.03 inch the next day, then 0.43 the following day and 3.17 inches two days later. Soil temperature on May 13 was 63°F and air temperature ranged from 48 to 76°F for the day. Relative humidity was estimated at 40 to 50%. Wind was from the east at 10 mph and sky was overcast. The encapsulated (S) formulations were compared with the regular emulsifiable (E) concentrate formulations. Cycloate was also included in the study as the regular emulsifiable concentrate formulation. The impregnated treatments were the regular EC formulations mixed with 7-31-12 fertilizer and uniformly spread at 320 lb/A. Ratings for weed control and crop tolerance were made June 11. No crop injury was noted except perhaps very slight effect from the higher rate of cycloate. Weed control was very good with little difference between treatments. However, addition of atrazine tended to improve control as did incorporation. Usually there was little if any improvement for two pass incorporation over one pass. EPTC tended to perform slightly better than butylate. Results were considered good with the herbicides impregnated on dry fertilizer with relatively uniform distribution indicated. The rain that began about five hours after spraying was completed may have precluded more significant treatment differences and contributed to good performance of all treatments. However, this data along with data from other experiments with a different rainfall pattern may be quite meaningful. Without irrigation it would seldom be possible to obtain rainfall conditions and data as was obtained in this study. This study suggests that encapsulated treatments may have some promise and merit further study. It also suggests the feasibility of one pass incorporation for some herbicides. And it further indicates the feasibility of herbicides impregnated on dry fertilizer. (University of Illinois at Urbana-Champaign)

Table. Evaluation of herbicide formulations and incorporation. (Knake, Hook, Paul, and Pike)

Treatment	Formulation	lb/A	% Control								
			Giant Foxtail			Large Crabgrass			Redroot Pigweed		
			Surf	1X	2X	Surf	1X	2X	Surf	1X	2X
Butylate	6.7E	4	96	98	100	90	98	100	93	98	98
Butylate + atr.	6.7E	4 + 1.5	98	98	98	98	98	98	93	100	100
Butylate	4S	4	88	93	99	88	93	96	88	92	94
Butylate + atr.	4S	4 + 1.5	98	93	98	98	93	98	100	100	100
EPTC	6.7E	4	98	100	100	98	100	100	92	96	100
EPTC + atr.	6.7E	4 + 1.5	100	100	100	100	100	100	100	100	100
EPTC	3S	4	98	100	100	98	100	100	95	100	100
EPTC + atr.	3S	4 + 1.5	100	100	100	100	100	100	100	100	100
Cycloate + atr.	6E	4 + 1.5	100	97	100	100	97	100	100	98	100
Cycloate + atr.	6E	6 + 1.5	100	100	100	100	100	100	100	100	100
On Dry Fertilizer:											
EPTC		4	96	97	98	96	97	98	96	93	94
Butylate		4	93	95	93	93	95	93	88	92	88
EPTC + atr.		4 + 1.5	98	100	97	100	100	97	100	100	95
Butylate + atr.		4 + 1.5	98	97	97	97	98	97	100	99	97
Check - Untreated			0	0	0	0	0	0	0	0	0

Formulations of butylate and EPTC both included dichlormid.

The cycloate formulation included dietholate.

Table. Evaluation of herbicide formulations and incorporation. (Knake, Hook, Paul, and Pike)

Treatment	Formulation	lb/A	Bu/A		
			Surface	1X	2X
Butylate	6.7E	4	137	138	136
Butylate + atr	6.7E 90DF	4 + 1.5	152	140	133
Butylate	4S	4	147	140	133
Butylate + atr	4S 90DF	4 + 1.5	143	139	145
EPTC	6.7E	4	146	135	140
EPTC + atr	6.7E 90DF	4 + 1.5	147	138	149
EPTC	3S	4	148	143	140
EPTC + atr	3S 90DF	4 + 1.5	153	138	138
Cycloate + atr	6E 90DF	4 + 1.5	138	140	137
Cycloate + atr	6E 90DF	6 + 1.5	142	146	135
<u>On Dry Fertilizer:</u>					
EPTC		4	144	144	138
Butylate		4	145	145	149
EPTC + atr		4 + 1.5	148	145	139
Butylate + atr		4 + 1.5	143	144	151
Check - Untreated			134	126	127
MEANS			144	140	139

## COMMON LAMBSQUARTERS CONTROL IN SOYBEANS

Ellery L. Knake, Lyle E. Paul, William S. Curran, and David R. Pike

With the introduction of some new postemergence herbicides for soybeans that are weak on lambsquarters, interest has increased in control of this weed. The primary purpose of this study was to evaluate for lambsquarters various soil-applied and postemergence treatments used as combinations and in sequence. The study was established on area 1400N at the Northern Illinois Agronomy Research Center near DeKalb. The soil was Drummer silty clay loam with 5 to 6% organic matter in a high state of fertility. A tandem disk with harrow was used twice for seedbed preparation. BSR 201 soybeans were planted in a north-south direction in 30 inch rows. The area had a relatively uniform and natural infestation of common lambsquarters as the major broadleaf weed. In addition there was a very modest infestation of annual grass. A cross hatch design was used with cinmethylin, alachlor, metolachlor, pendimethalin applied preemergence north and south and chloramben, metribuzin, FMC-57020, and imazaquin east and west. Similarly postemergence herbicides for grass control were also applied north and south and postemergence treatments primarily for broadleaf weeds applied east and west. The north-south treatments were randomized and replicated three times. Preemergence herbicides were applied May 7, between 10:30 a.m. and 12:00 noon. Soil temperature at 4 inch depth was 61°F. Air temperature ranged from 50 to 77°F. Relative humidity was estimated at 40-50%. Wind was 0-2 mph from the south and there was 10% cloud cover. BSR soybeans were planted in 30 inch rows north and south just prior to herbicide application May 7. Postemergence treatments were applied June 3 between 7:30 and 8:30 a.m. Soybeans were three inches with one trifoliolate and lambsquarters one inch with four leaves. Soil temperature at 4 inches was 66°F and air temperature ranged from 40 to 76° for the day. Relative humidity was estimated at 60%. Wind was 5 mph from the east and sky was clear. For both preemergence and postemergence treatments a tractor mounted sprayer with flat fan nozzle tips was used with 30 psi pressure and at 3 mph for 25 gpa. Ratings were made June 12. There was 1.01 inches of rain about a week before the preemergence application and 0.48 six days after. There was 0.94 inch of rain during the eight day period before postemergence application, and 0.16 inch two days after and 0.67 inch seven days after. Cinmethylin, alachlor and metolachlor gave partial control of lambsquarters. Metribuzin, FMC-57020, and imazaquin gave excellent control and chloramben relatively good. With bentazon, crop oil concentrate was more effective than 28% nitrogen solution. Acifluorfen was less effective than bentazon + COC but bentazon plus acifluorfen was equivalent to bentazon + COC. DPX-F6025 did not control lambsquarters and chloramben plus 2,4-DB postemergence did not appear appropriate. In summary, soil-applied treatments of metribuzin, FMC-57020 or imazaquin gave good control of lambsquarters. A treatment of alachlor or possibly metolachlor or cinmethylin preceding bentazon-acifluorfen treatments appeared to improve control. (University of Illinois at Urbana-Champaign)

Table 1. Control of common lambsquarters in soybeans. (Knake, Paul, Curran, and Pike)

		Preemergence				Check
		Chloramben	Metribuzin	FMC-57020	Imazaquin	
		lb/A				
1b/A		2	0.375	1	0.125	
Percent Control 6/12						
Check		90	100	100	100	0
<u>Preemergence</u>						
Cinmethylin	1.5	97	97	97	100	73
Alachlor	3	100	100	100	100	82
Metolachlor	2.5	97	97	97	97	67
<u>Postemergence</u>						
Sethoxydim + Am. sulfate	0.1875 + 2.5	90	100	100	100	0
Fluazifop-P + COC	0.1875 + 1 qt	90	100	100	100	0
DPX-Y6202 + COC	0.125 + 1 qt	90	100	100	100	0
Haloxyfop + COC	0.125 + 1 qt	90	97	97	100	0

Table 2. Control of common lambsquarters in soybeans. (Knake, Paul, Curran, and Pike)

		Postemergence											
		Bentazon + COC		Bentazon + 28% N		Acifluorfen + Triton AG98		Acifluorfen + 10-34-0 1b/A		Bentazon + acifluorfen + Triton AG98		Chloramben + 2,4-DB DPX-F6025 + X-77	
1b/A		1 + 1 qt		1 + 1 gal		0.5 + 0.125%		0.5 + 1 qt		0.5 + 0.375 + 0.125%		2 + 0.03 0.25%	
		Percent Control 6/12											
Check		90		77		77		77		90		50	
Preemergence													
Cinnethylin Alachlor Metolachlor	1.5	97	93	93	93	93	93	93	93	98	82	85	
	3	100	97	98	98	98	98	97	100	80	80		
	2.5	97	92	91	91	91	91	91	99	77	77		
Postemergence													
Sethoxydim + Am. sulfate Fluazifop-P + COC DPX-Y6202 + COC Haloxypop + COC	0.1875 + 2.5	98	82	82	82	82	82	82	90	50	50		
	0.1875 + 1 qt	98	92	92	92	92	92	92	90	50	50		
	0.125 + 1 qt	98	92	92	92	92	92	92	90	50	50		
	0.125 +	98	92	92	92	92	92	92	90	50	50		

## IMPROVING CONTROL OF REDROOT PIGWEED AND VELVETLEAF

Ellery L. Knake, S. Curran, and Lyle E. Paul

The primary purpose of this study was to determine thresholds for control of redroot pigweed and velvetleaf with several herbicides. This information is then useful for designing combinations. FMC-57020 is excellent on velvetleaf but what is the minimal rate, especially when considering an additive effect with other herbicides? FMC-57020 is quite weak on pigweed. What rate of other herbicides might be combined with FMC-57020 to improve pigweed control? The study was conducted at the Northern Illinois Agronomy Research Center near DeKalb on Drummer silty clay loam with about 6% organic matter. The field was disked to prepare a good seedbed. Redroot pigweed and velvetleaf were seeded separately in strips with a Brillion seeder on May 6. No crop was planted. The design was a cross-hatch with FMC-57020 at various rates east and west and various rates of several other herbicides north and south. Herbicides were also applied May 6 between 6 and 7 p.m. Soil temperature at four inch depth was 61°F. Air temperature ranged from 60 to 77°F for the day. Relative humidity was estimated at 50%. Wind speed was 10 mph from the SW. A tractor mounted compressed air sprayer was used with flat fan nozzle tips, 30 psi pressure, and 3 mph to give 25 gpa. There was 0.52, 0.25, and 0.24 inch of rain on the 6, 7, and 8th days, respectively, prior to spraying. There was 0.48, 0.43, and 3.17 inches of rain on the 7th, 9th and 11th days, respectively, after spraying. Under the conditions of this study, the threshold for 100 percent control of velvetleaf with FMC-57020 appeared to be between 0.25 and 0.5 lb/A. By using FMC-57020 in combination with some other herbicides to obtain some additive effect, the rate of FMC-57020 could be reduced to 0.25 lb/A for achieving 100% control of velvetleaf. Considering other studies at this location the previous year in addition to this one, the threshold for FMC-57020 on velvetleaf appears to be about 0.38 lb/A. This year's study suggested some possible combinations with 0.25 lb/A of FMC-57020 to be 0.25 lb/A metribuzin, 1.0 lb/A chloramben, 0.03 lb/A AC-263,499 or 0.5 oz/A DPX-F6025 to achieve complete control of velvetleaf or nearly so. Although this study suggested control of redroot pigweed with 1.0 lb/A or more of FMC-57020, in another study this year at this location 1.25 lb/A gave only 60% control. In the study being reported here, metribuzin appeared to be one of the more promising herbicides for control of pigweed with even 0.13 lb/A alone giving 100% control. AC-263,499 alone at 0.06 lb/A or DPX-F6025 alone at 0.5 oz also gave 100% control of pigweed as did 2 lb/A alachlor. This study suggests several possible combinations for improving control of both pigweed and velvetleaf. (University of Illinois at Urbana-Champaign)



EFFECT OF HERBICIDE RESIDUES ON CORN FOLLOWING SOYBEANS  
TREATED WITH FMC-57020, IMAZAQUIN OR AC 263,499  
William S. Curran, Ellery L. Knake, and Lyle E. Paul

The primary purpose of this study was to determine the possible potential for several new herbicides for soybeans to carry over and affect corn the following year. The study was started in 1985 at the Northern Illinois Agronomy Research Center near DeKalb. The soil was predominantly Drummer silty clay loam with some Harpster silty clay loam. Harpster tends to have a relatively high pH and soil samples from this field in 1986 revealed that pH ranged from 6.3 to 8.0. Organic matter is about 5%. The experimental design is a randomized complete block with four replications and thirteen treatments. Individual plots are 10 ft x 75 ft. The field had been in corn in 1984 and 120 lb/A each of  $P_2O_5$  and  $K_2O$  was applied November 19, 1984. In the spring of 1985, the field was disked once on May 2 and worked once on May 13 with a field cultivator with a harrow behind. BSR 201 soybeans were planted May 14, 1985 in 30 inch rows and herbicides broadcast 4:30 to 6:30 p.m. that same day. There was 0.58 inch of rain during the previous two weeks. On May 14 there was 1.19 inches of rain. About 0.3 inch of this was during the night but by 1 p.m. the soil was suitable to work. The majority of the 1.19 inches was after herbicide application and started immediately after spraying was completed. Rainfall in inches during the subsequent two weeks was 0.08 May 15, 0.2 May 16, 0.23 May 20, 0.3 May 26, and 0.34 May 27. There was no further rain until June 10. Pioneer Brand 3540 corn was planted May 7 in 30 inch rows. The field was not tilled in the fall or spring prior to planting corn and corn rows were directly in the old soybean rows, assuring precisely the same plot locations both years. Immediately after planting the corn, 3 lb/A alachlor plus 2 lb/A atrazine was broadcast 8:30 to 10:15 a.m. May 7. Weed control was excellent in both 1985 and 1986 and plots were not cultivated except for a little hand hoeing. On May 7, 1986, soil temperature at four inch depth was 61°F and air temperature ranged from 50 to 77°F. Relative humidity was estimated at 40 to 50%. Wind was 1 mph from the south and cloud cover 10%. Crop residue from the soybeans was estimated to give 30% soil cover on May 7. In both years, a tractor mounted compressed air sprayer was used with flat fan nozzles, 30 psi pressure and 3 mph to give 25 gpa. Corn height was measured and stand counts made June 26, 1986. There appeared to be little, if any, effect on corn plant population or corn height. About the only areas with corn showing some effect was at the outside edge of plots where the sprayer had been stopped. Also there were some corn plants showing typical symptoms from FMC-57020 primarily in one plot with the highest rate and pH of 8.0. The  $P_1$  test for this same plot was exceptionally low at 7. This was in the Harpster soil area. Additional residue studies were initiated in 1986 at DeKalb, Monmouth, Urbana, Belleville, and Elwood to provide data under a variety of soil and climatic conditions. (University of Illinois at Urbana-Champaign)

Table. Effect of herbicide residues on corn following soybeans. (Curran, Knake, and Paul)

Treatment in 1985	lb/A a.i.	Height of Corn 6/26		Plants per Acre (thousands) 6/26
		Free Standing	Leaf Extended	
		(inches)	(inches)	
FMC-57020	0.75	31	41	24.0
FMC-57020	1.0	33	46	24.4
FMC-57020	1.5	32	43	24.4
FMC-57020	2.0	28	40	24.3
Imazaquin	0.0625	31	43	24.4
Imazaquin	0.125	33	45	25.2
Imazaquin	0.1875	31	43	23.9
Imazaquin	0.25	29	41	24.7
AC 263,499	0.0625	33	44	24.4
AC 263,499	0.125	32	43	24.6
AC 263,499	0.1875	29	41	24.6
AC 263,499	0.25	32	44	24.0
Chloramben	3	31	43	25.3
LSD 0.05		3.1	4.0	1.0

In 1986, 2 lb/A atrazine + 3 lb/A alachlor on all plots.

Table. Effect of 1985 soybean herbicides on 1986 corn yield - DeKalb.  
(Curran, Knake, and Paul)

Herbicide 1985	lb/A a.i.	Corn bu/A 1986	As % of Amiben Check
FMC 57020	0.75	58.1	92
FMC 57020	1.0	70.5	112
FMC 57020	1.5	79.1	125
FMC 57020	2.0	65.0	103
Imazaquin	0.062	72.1	114
Imazaquin	0.125	67.1	106
Imazaquin	0.187	62.7	99
Imazaquin	0.25	58.7	93
AC 263,499	0.062	74.8	119
AC 263,499	0.125	61.8	98
AC 263,499	0.187	60.9	97
AC 263,499	0.25	77.1	122
Amiben	3.0	63.1	100
LSD 0.05		29.8	

# EVALUATION OF HERBICIDES FOR WEED CONTROL IN NO-TILL DRILLED SOYBEANS

Lyle E. Paul, Ellery L. Knake, and William S. Curran

The primary purpose of this study was to evaluate herbicides for control of existing vegetation where soybeans are planted with no tillage except that provided by a drill during the planting operation. It was conducted at the Northern Illinois Agronomy Research Center near DeKalb on plot area S1200 with Drummer silty clay loam with 5 to 6% organic matter, pH of 6.1, P<sub>1</sub> test of 42 and K test of 240. Herbicides were applied May 23 between 9:30 and 10:30 a.m. Soil temperature at four inch depth was 61°F and air temperature ranged from 44 to 66°F for the day. Wind was from the east at 5 mph and there was 15% cloud cover. Relative humidity was estimated at 80%. A tractor mounted compressed air sprayer with flat fan nozzle tips was used with 30 psi pressure at 3 mph to give 25 gpa. All plots also received 0.5 lb/A metribuzin and 2.5 lb/A metolachlor. At time of treatment, giant foxtail was 3.5 inches with 3 leaves, common lambsquarters 2.5 inches with 15 leaves, velvetleaf 2 inches with 2 leaves, and Pennsylvania smartweed 6.5 inches with 10 leaves. Other weeds present included dandelion, horseweed, prickly lettuce, shepherds purse, eastern black nightshade, field pepperweed and yellow wood sorrel. BSR 201 soybeans were drilled in rows 10 inches apart at a rate of 90 lb/A on June 3. Weed control ratings were made June 11. Nearly all treatments gave good control of annual grass. Control of annual broadleaf weeds was also generally good. Control of perennial broadleaf weeds was not considered very good except with glufosinate which gave better control at the 0.5 lb/A rate than glyphosate. The major infestation and weed of interest was giant foxtail. (University of Illinois at Urbana-Champaign)

Table. Weed control for no-till drilled soybeans. (Paul, Knake, and Curran)

Treatment	lb/A a.i.	Adjuvant	% Control 6/11/86		bu/A
			Annual Grass	Perennial Broadleaves	
Check - Untreated			0	0	11.1
Glyphosate + 1% X-77	0.5	1%	98	60	44.2
Glufosinate + 1% X-77	0.5	1%	100	100	50.5
Paraquat + 0.25% X-77	0.5	0.25%	93	63	47.5
Linuron + 0.5%	1	0.5%	98	50	39.8
Surfactant WK					
Sethoxydim + COC	0.25	1 qt/A	96	50	42.5
Fluazifop-P + COC	0.25	1 qt/A	98	47	44.1
DPX-Y6202 + COC	0.125	1 qt/A	100	50	43.4
Haloxypop + COC	0.125	1 qt/A	100	50	41.4
Fenoxaprop + COC	0.125	1 qt/A	100	50	42.2
RE-45601 + COC	0.125	1 qt/A	97	50	41.9
BAS-51702 + COC	0.125	1 qt/A	100	50	41.7
DPX-Y6202-31 + COC	0.063	1 qt/A	87	50	42.5
LSD 0.05			9	17	7.2

On all plots: Metribuzin + Dual at 0.5 + 2.5 lb/A a.i.

## LACTOFEN AS A POSTEMERGENCE FOR SOYBEANS - NORTHERN ILLINOIS

Ellery L. Knake, Lyle E. Paul, and David R. Pike

The purpose of this study was to determine efficacy of lactofen for weed control in soybeans and to evaluate degree of crop tolerance using lactofen alone and in combination with various additives. This study was established at the Northern Illinois Agronomy Research Center near DeKalb on Drummer silty clay loam with 6% O.M., pH of 5.9, P<sub>1</sub> test of 43 and K test of 300. BSR 201 soybeans were planted in May 8, in 30 inch rows at 55 lb/A. Fluaizfop-P at 0.2 lb/A plus 1 qt/A COC was applied uniformly to all plots for grass control on June 4 between 8:00 and 9:00 a.m. when soybeans had two unifoliates and were 2.5 inches. Soil temperature was 67°F at the 4 inch depth and air temperature ranged from 53 to 80°F for the day. Relative humidity was estimated at 80%. Wind was 5 mph from the south and sky was hazy. Lactofen treatments were applied June 6 between 8:00 and 9:00 a.m. Soybeans were 3 inches with one trifoliolate. Soil temperature at the 4 inch depth was 66°F and air temperature ranged from 56 to 66°F for the day. Relative humidity was estimated at 90 to 100% as there was an early morning fog. Lactofen treatments were applied with an OSU bicycle type sprayer with flat fan nozzles, 30 psi pressure, and 3 mph to give 25 gpa. There was 0.16 inch of rain on June 5 and 0.29 a week earlier. The first rain after treatment was 0.67 inch on June 10. Redroot pigweed was the major weed species and was one inch with five leaves at time of lactofen treatments. There was also some prostrate pigweed 0.5 inch with four leaves and common lambsquarters one inch with six leaves. Ratings were taken June 11 and 20 for soybean injury and control of redroot pigweed. Weed control was excellent with all treatments. Crop injury was greatest in treatments with crop oil concentrate or 2,4-DB and least with no additive or with 10-34-0. Although the crop injury was considered relatively severe, the soybeans appeared to generally outgrow the injury fairly well. Based on this and studies at three other locations this year, lactofen appears to give broad spectrum control of annual broadleaf weeds and some suppression of annual grass and volunteer corn. With lactofen at 0.2 lb/A an additive may not be needed but if one is used, 10-34-0 may be the most appropriate. There does not appear to be any advantage to combining lactofen with another herbicide for broadleaf weed control. Although significant injury from lactofen will likely be noted primarily on the first three trifoliolate leaves, with decreasing intensity on the younger leaves, soybeans appear to have considerable ability to outgrow this early season injury rather rapidly. At one additional location, common lambsquarters was not controlled well with lactofen and this may have been due to the size. At one location lactofen appeared to be effective on tall water hemp which is increasing in some sections of the state. (University of Illinois at Urbana-Champaign)

Table. Lactofen postemergence on soybeans - Northern Illinois. (Knake, Paul, and Pike)

	lb/A	6/11/86			6/20/86		
		% SB Injury	Height of SB inches	% Control Rrpw	% SB Injury	Height of SB inches	% Control Rrpw
Lactofen	0.2	20	6	100	5	8	100
Lactofen + X-77	0.2 + 0.25%	20	6	100	10	7	100
Lactofen + COC	0.2 + 1 pt	25	5	100	10	7	100
Lactofen + bentazon + COC	0.15 + 0.5 + 1 pt	28	4.25	100	8	7.3	100
Lactofen + 2,4-DB	0.2 + 0.03	30	4	100	10	7	100
Lactofen + 10-34-0	0.2 + 1 qt	20	6	99	6.7	7.7	100
LSD 0.05		2.18	1.44	1.31	2.92	0.29	NSD

## WEED CONTROL FOR A REDUCED TILLAGE CROPPING SEQUENCE

Ellery L. Knake, Lyle E. Paul, William S. Curran, and David R. Lindgren

The purpose of this study is to compare various tillage systems and times and methods of herbicide application for those systems. For soybeans after corn the tillage comparison is chisel plowing plus two diskings versus just one disking. For corn, the comparison is disking soybean stubble twice versus planting corn no-till in clover sod. For corn and soybeans with some tillage, times and methods of herbicide application for comparison include preplant incorporated versus preemergence versus postemergence. Various herbicides are used for these comparisons. For establishing a new stand of clover, two different preplant incorporated treatments and one postemergence treatment are compared primarily for control of annual grass. This long term study is at the Northern Illinois Agronomy Research Center near DeKalb on a area designated as 1400 south. Soil is a Drummer silty clay loam with 5 to 6% organic matter and had a pH of 5.9. Four tons of limestone per acre were applied in January 1986.  $P_1$  test was 43 and K test 300. For the corn 240 lb/A nitrogen was applied. Pioneer Brand 3475 corn was planted April 24, 2 inches deep in 30 inch rows for 28,000 plants per acre. Pioneer 9271 soybeans were planted 1 to 1 1/2 inches deep in 30 inch rows at 54 lb/A on April 24 also. On April 22 trifluralin and EPTC were applied at 2:00 p.m. and disked twice immediately. A Brillion seeder was used to seed medium red clover. On April 24, the PPI treatments were applied for corn and soybeans 11:30 a.m. to noon and incorporated immediately using a tandem disk with spike tooth harrow behind. Two pass incorporation was used except for ethalfluralin plus metribuzin which had one pass. Herbicides for corn in clover sod were applied April 24 at 1:15 to 1:30 p.m. just before planting corn. The other preemergence treatments for corn and soybeans were applied 1:30 to 2:15 p.m. April 24. Postemergence treatments were applied May 23. Fluazifop-P, tridiphane plus atrazine, 2,4-DB and dicamba were applied 8:15 to 9:00 a.m. Sethoxydim was applied 2:45 p.m. Bentazon plus acifluorfen and bromoxynil plus atrazine were applied at 3:15 p.m. Giant foxtail was 1.5 inches with three leaves. Pennsylvania smartweed was 2.5 inches with four leaves, corn was 7 inches with five leaves and soybeans were 3.5 inches with one trifoliolate leaf. Clover in the new seeding was 1.0 inch with one trifoliolate leaf and in the old stand was 4 inches. On June 6 all plots with corn in clover sod were treated with 1 lb/A bentazon plus 1 qt/A COC for control of yellow nutsedge and Canada thistle. Some soybean injury was noted for metribuzin used with FMC-57020 and for ethalfluralin plus metribuzin as well as with bentazon plus acifluorfen. Very slight injury to corn was noted with bromoxynil and with dicamba. There was also slight effect on clover from 2,4-DB. Control of Pennsylvania smartweed was quite good except with 2,4-DB which only gave suppression. Control of giant foxtail was very good with FMC-57020 plus metribuzin and also with chloramben. Control of giant foxtail was a little better with fluazifop-P than with sethoxydim but both above 90%. For corn, EPTC + dichlormid + atrazine PPI gave the best control. For corn in clover sod, annual grass and broadleaf weed control was very good and control of the clover with dicamba was very good. Although there was an inch of rain within a week after application of the triazines for control of clover, they did not appear as effective in this study as in some other studies. Addition of a postemergence application of dicamba would likely have given more complete control. For establishing clover, EPTC followed by 2,4-DB gave the best control.

Trifluralin strengthened smartweed control somewhat and EPTC added even more. The data suggest that tillage can be reduced for soybeans after corn while still achieving good weed control. (University of Illinois at Urbana-Champaign)

Table. Weather data. (Knake, Paul, Curran, and Lindgren)

Date	Soil Temp. 4" - °F	Air Temp. °F	Relative Humidity	Wind	Sky % Overcast	Rainfall - inches	
						Previous Week	Following 2 Weeks
4/22	48-51	22-49	44-65	--	0	0.07	1.01
4/24	50-53	39-80	31-65	10-15 S	0	0	1.01
5/23	60-62	44-66	47-91	5 E	30	3.33	1.10

Table. Weed control for a reduced tillage cropping sequence. (Knake, Paul, Curran, and Lindgren)

1986	Crop 1985	Tillage 1986	Type of Herbicide Application	Herbicides	Rate lb/A	Crop Injury	% Control			bu/A
							Gift	Pesw	Clover	
Soybeans	Corn	Chisel, disk	PPI	Imazaquin + pendimethalin	0.125 + 1.0	0	88	97		44
			PRE	FMC-57020 + metribuzin	1.25 + 0.25	7	100	100		47
			POST	Fluazifop-P + COC	0.2 + 1 qt	23	98	100		34
				Bentazon + acifluorfen + + 10-34-0	0.5 + 0.38 + 1 qt					
Soybeans	Corn	Disk	PPI	Ethalfuralin + metribuzin	1.125 + 0.5	27	91	100		34
			PRE	Chloramben	3	0	98	100		35
			POST	Sethoxydim + am. Sulfate + COC	0.2 + 2.5 + 1 qt	20	93	100		29
				Bentazon + acifluorfen + + 10-34-0	0.5 + 0.38 + + 1 qt					
Corn	Soybeans	Disk	PPI	EPTC + dichlormid + atr.	4 + 2	0	97	100		198
			PRE	Metolachlor + atr.	2.5 + 2	0	88	100		185
			POST	Tridiphane + atr. + COC	0.5 + 1.5 +	3	80	100		148
				Bromoxynil + atr. 0.38 + 0.5	1 qt 0.38 + 0.5					
Corn	Clover	None	PRE	Atrazine + cyanazine + COC	2 + 2 + 1 qt	0	100	100	77	166
			PRE	Atrazine + cyanazine + metolachlor + COC	1.5 + 1.5 + 1.5 + 1 qt	0	100	100	47	170
			PRE	Dicamba + metolachlor - dicamba	0.25 + 2 - 0.5	3	100	100	100	185
Clover	Soybeans	Disk	PPI + POST	EPTC - 2,4-DB	4 - 1	3	99	80		
			PPI + POST	Trifluralin - 2,4-DB	0.75 - 1	3	80	65		
			POST + POST	Fluazifop-P + COC - 2,4-DB	0.2 + 1 qt - 1	3	83	50		

## CORN IN CLOVER SOD IN NORTHEASTERN ILLINOIS

Ellery L. Knake, Lyle E. Paul, William S. Curran, and Dale E. Harshbarger

The purpose of this study was to further determine the feasibility of using a spray-plant-harvest program for no-till corn in clover sod following use of clover for acreage conservation reserve (set-aside) or for livestock. This study was conducted at the Northeastern Illinois Agronomy Research Center near Elwood. A randomized complete block design with four replications was used. Mammoth red clover was seeded in the plot area April 30, 1985 and established fairly well. An application of 120 lb/A each of  $P_2O_5$  and  $K_2O$  was made to the area on April 20, 1985. In 1986, 180 lb/A of nitrogen was applied as ammonium nitrate. No tillage or cultivation was used in 1986 except for the one conventional tillage treatment where the plots were plowed with a moldboard plow in the fall of 1985 and on April 28, 1986 were worked three times with a tandem disk with a harrow behind. Herbicide treatments prior to planting were applied April 28, 1986 between 3:00 and 5:00 p.m. The clover was 4 inches tall and actively growing. Soil temperature at the 2 inch depth was 64°F and air temperature ranged from 56 to 89°F for the day. Relative humidity was 75% at time of spraying. Wind speed was 5 mph from the SW. Sky was overcast. There was 0.03 inch of rain on April 28, 0.43 inch during the previous two weeks, 0.31 inch on April 30 and 0.43 inch during the following two weeks. The field included Beecher, Drummer and Blount silt loam to silty clay loam with organic matter from 2 to 5%. Pioneer Brand 3540 corn was planted May 2 aiming for 26,000 plants per acre. A tractor mounted compressed air sprayer with flat fan nozzles was used with 30 psi pressure and 3 mph to give 25 gpa. Postemergence treatments were applied with the same equipment on May 22 between 4:30 and 5:30 p.m. when corn was 4 inches with four leaves. Soil temperature was 52°F at the 2 inch depth and air temperature ranged from 43 to 66°F for the day. Wind was 5 mph from the east. Humidity was estimated at 50%. There was 0.99 inch of rain during the previous week and 1.44 inches on May 27. Ratings on control of clover and annual weeds were made June 10 and September 9. For the untilled plots control of clover on June 10 was 100% where dicamba was used but 63 to 79% with the triazines. However, by September control of clover was quite good on all plots. Addition of cyanazine, alachlor or metolachlor to atrazine improved control of annual grass as did addition of metolachlor to dicamba. Control of annual grass with 4 lb/A cyanazine or 1 lb/A pendimethalin was quite good. Velvetleaf was quite evident on the plowed plots but not in the no-till. Some suppression of corn growth was noted early in the season from dicamba and a little from pendimethalin. Although there was a little evidence of the earlier presence of mice or other rodents they were not a significant problem. The practice of growing corn no-till in clover sod has been investigated for several years. This practice is considered quite feasible with current herbicides and planting equipment. Yields have been relatively good but may not always equal yields with conventional tillage. Use of triazines has given control of shallow rooted clover although kill has sometimes been relatively slow with fairly dry weather. Dicamba has given good control of clover. Either the triazines or dicamba have given good control of annual broadleaves with dicamba having an advantage for some perennial broadleaves. Although an adequate rate of cyanazine may provide adequate control of annual grass, addition of alachlor, metolachlor or possibly pendimethalin can be considered particularly where only atrazine is used. Having a good stand of clover

without perennial grass is important. Rodents may also be a problem where the vegetation in the field is not controlled early or where cover exists in adjacent areas. Rodents seem to be less of a problem in areas where corn and soybeans predominate and there is little other cover. (University of Illinois at Urbana-Champaign)

Table. Corn in clover sod in northeastern Illinois. (Knake, Paul, Curran, and Harshbarger)

Treatment	lb/A	% Control 6/10			7/7/86 Corn Height Free Standing	bu/A
		Clover	Grft	Vele		
Atrazine	3	79	75	100	74	154.3
Cyanazine	4	63	100	100	69	152.7
Atrazine + cyanazine + metolachlor (plowed)	1.5 + 1.5 + 1.5	100	87	30	81	143.5
Atrazine + cyanazine + metolachlor	1.5 + 1.5 + 1.5	68	100	100	67	147.3
Atrazine + cyanazine	2 + 2	68	89	100	72	146.5
Atrazine + cyanazine	1.5 + 3	69	97	100	77	152.9
Atrazine + metolachlor	3 + 2	75	95	100	73	148.9
Atrazine + alachlor	3 + 2.5	68	95	100	71	148.7
Atrazine + pendimethalin	3 + 1	68	100	100	75	149.1
Dicamba PRE + dicamba POST	0.5 + 0.5	100	90	100	73	156.8
Dicamba + metolachlor PRE + dicamba POST	0.5 + 2 + 0.5	100	97	100	77	158.5
LSD 0.05		15.5	10.9	21.8	8.0	10.4

## CORN IN ALFALFA SOD IN NORTHEASTERN ILLINOIS

Ellery L. Knake, Lyle E. Paul, William S. Curran, and Dale E. Harshbarger

The primary purpose of this study was to further investigate the feasibility of growing corn no-till after alfalfa. This study was conducted at the Northeastern Illinois Agronomy Research Center near Elwood on a field which included Beecher, Drummer and Blount silt loam to silty clay loam with 2 to 5% organic matter. Winter hardy alfalfa was seeded April 30, 1985 and well established. An application of 120 lb/A each of  $P_2O_5$  and  $K_2O$  was made to the area on April 20, 1985. In 1986, 180 lb/A nitrogen as ammonium nitrate was applied. No tillage or cultivation was used in 1986 except for the one conventional tillage treatment where plots were moldboard plowed in the fall of 1985 and worked three times with a tandem disk with a harrow behind on April 28, 1986. A randomized complete block design was used with the eleven treatments replicated four times. Herbicide treatments prior to planting were applied April 28, 1986 between 3:00 and 5:00 p.m. The 2,4-D was butoxyethyl ester. The alfalfa was 12 inches high and actively growing. Soil temperature at the 2 inch depth was 64°F and air temperature ranged from 56 to 89°F for the day. Relative humidity was 75% at time of spraying. Wind speed was 5 mph from the SW. Sky was overcast. There was 0.03 inch of rain April 28, 0.43 during the previous two weeks, 0.31 inch on April 30, and 0.43 inch during the following two weeks. Pioneer Brand 3540 corn was planted May 2 aiming for 26,000 plants per acre. A tractor mounted compressed air sprayer with flat fan nozzles was used with 30 psi pressure and 3 mph to give 25 gpa. Postemergence treatments were applied with the same equipment on May 22 between 4:30 and 5:00 p.m. when corn was 4 inches free-standing with four leaves. Soil temperature was 52°F at the 2 inch depth and air temperature ranged from 43 to 66°F for the day. Wind was 5 mph from the east. Humidity was estimated at 50%. There was 0.99 inch of rain during the previous week and 1.44 inches five days after application. Control ratings were made June 10 and September 9. In June, control of alfalfa was rated over 90 percent for all sequential treatments with 0.25 lb/A dicamba prior to planting and 0.5 lb/A dicamba or 0.4 lb/A dicamba plus 0.8 lb/A atrazine (Marksman) early postemergence. The 0.5 lb/A each of dicamba and 2,4-D butoxyethyl ester prior to planting was also quite effective and more so than 1 lb/A of 2,4-D or only 0.5 dicamba. Glyphosate did not give good control of alfalfa although September ratings were better than in June. Control of annual grass and broadleaf weeds was very good with all treatments. The good control of annuals may have been associated at least partially with the presence of alfalfa or alfalfa plant residue. (University of Illinois at Urbana-Champaign)

Table. Corn in alfalfa sod in northeastern Illinois. (Knake, Paul, Curran and Harshbarger)

Treatment	lb/A	% Control of 6/10		Corn Height Free Standing	bu/A
		Alfalfa	Graft Vele		
Dicamba + 2,4-D + metolachlor	0.5 + 0.5 + 2	97	100 100	77	133.6
Dicamba + 2,4-D	0.5 + 0.5	97	100 100	81	148.1
Dicamba + metolachlor PRE + dicamba POST (plowed)	0.25 + 2 + 0.5	100	100 100	78	129.5
Dicamba + metolachlor PRE + dicamba POST	0.25 + 2 + 0.5	99	100 100	75	141.5
Dicamba PRE + dicamba POST	0.25 + 0.5	91	100 100	70	114.1
Dicamba + metolachlor PRE + dicamba + atr. POST*	0.25 + 2 + 0.4 + 0.8	99	100 100	76	139.5
Dicamba PRE + dicamba + atr. POST*	0.25 + 0.4 + 0.8	92	100 100	71	125.2
Dicamba + atr. + metolachlor	0.5 + 2 + 2	73	100 100	77	135.7
Glyphosate + alachlor + atr.	2 + 2 + 2	35	100 100	68	115.0
2,4-D + metolachlor + atr.	1 + 2 + 2	88	100 100	81	153.6
Glyphosate + alachlor** + atr.	1.75 + 3.25 + 2	35	100 100	73	119.7
LSD 0.05		5.3	NSD NSD	6.2	20.9

\*Marksman.

\*\*Bronco.

# CLOPYRALID AND FLUROXYPYR FOR NO-TILL CORN IN CLOVER AND ALFALFA SOD

Ellery L. Knake, Lyle E. Paul, and William S. Curran

The purpose of this study was to evaluate the efficacy of these two compounds for controlling clover and alfalfa for no-till planting of corn. The study was conducted at the Northeastern Illinois Agronomy Research Center near Elwood on Drummer silty clay loam with 5 to 6% organic matter. The alfalfa and clover had been established the previous year with a seeding of mammoth red clover and winter hardy alfalfa in two adjacent areas. The seeding was made April 30, 1985. Soil tests made in the fall of 1984 indicated that the pH was 5.6 so 5 ton of limestone was applied during the winter of 1985-86. for the corn in 1986, 180 lb/A nitrogen as ammonium nitrate was applied April 29, 1986. Spraying was done on April 29 from 9:30 to 10:00 a.m. when clover was 4 inches and alfalfa 12 inches and both actively growing. Soil temperature at 2 inch depth was 51°F and air temperature ranged from 45 to 58°F for the day. Humidity was 94% at 8:00 a.m. Wind was 5 mph from the southwest and there was 25% cloud cover. A tractor mounted compressed air unit with flat fan nozzles, 30 psi pressure and 3 mph was used to give 25 gpa. All plots received 2 lb/A each of atrazine and metolachlor. Pioneer Brand 3540 corn was planted May 2 in 30 inch rows to give 26,000 plants/A. Ratings were made June 10, 1986. At 0.5 lb/A clopyralid gave excellent control of clover and 90% control of alfalfa. Fluroxypyr gave excellent control of clover at 0.5 lb/A and at 1.0 lb/A gave 80% control of alfalfa. No corn injury was noted. At 0.5 lb/A clopyralid gave good control of dandelion. Control of annual weeds was very good. Thus, it appears that clopyralid or fluroxypyr at appropriate rates could have good potential for killing alfalfa, clover, and some weeds where no-till systems are used. (University of Illinois at Urbana-Champaign)

Table. Clopyralid and fluroxypyr for control of clover and alfalfa for no-till corn - Elwood, 1986. (Knake, Paul, and Curran)

Treatments	lb/A	% Control 6/10					Corn Injury 6/10	bu/A
		Alfalfa	Clover	Dali	Grft	Vele		
Clopyralid	0.125	50	85	10	95	100	0	130
Clopyralid	0.25	70	90	30	95	100	0	140
Clopyralid	0.5	90	100	90	95	100	0	154
Fluroxypyr	0.25	40	80	10	95	90	0	135
Fluroxypyr	0.5	60	100	20	98	90	0	149
Fluroxypyr	1.0	80	100	30	100	90	0	159

All plots: atrazine + metolachlor (2 + 2).

FALL PANICUM CONTROL IN CONTINUOUS CORN WITH  
VARIOUS TILLAGE SYSTEMS AND HERBICIDES

Lyle E. Paul, Ellery L. Knake, William S. Curran, and Dale E. Harshbarger

The purpose of this study is to determine appropriate controls for fall panicum which frequently increases as tillage is reduced for continuous corn. Previous studies at this location have indicated that some form of tillage can help greatly in controlling fall panicum. One of the most successful herbicide programs in the past has been to use alachlor or metolachlor preemergence plus an early postemergence application of cyanazine with the possible addition of pendimethalin to extend control. The study was continued this year at the Northeastern Illinois Agronomy Research Center near Elwood where the tillage treatments have been in progress for over 10 years. The soil is Blount silt loam with 1 to 2% organic matter and pH of 5.3. The tillage treatments are randomized in three replications and each tillage plot split for the four herbicide treatments. Pioneer Brand 3540 corn was planted May 5 at the rate of 26,000 per acre in 30 inch rows. Preemergence herbicide treatments were applied the same day from 2:30 to 4:30 p.m. Soil temperature at the 2 inch depth was 59°F and air temperature ranged from 56 to 76°F for the day. Wind was 15 mph from the SSW and sky was clear. Early postemergence treatments were applied May 24 between 7:00 and 8:00 a.m. when corn was 4.5 inches with three leaves. Soil temperature at 2 inches was 60°F and air temperature ranged from 44 to 70°F for the day. There was no wind and sky was sunny with a slight haze. A tractor mounted compressed air sprayer with flat fan nozzle tips was used with 30 psi pressure and 3 mph to give 25 gpa. There was little rain during the week following May 5 but during the next week there was 0.82 inch. There was no rain for the four days preceding the May 24 treatments but 0.63 during the four days prior to that. On May 27 there was 1.44 inches. Fall panicum was not emerged above the crop residue at time of the early treatment and was one inch with three leaves at time of the postemergence treatment. Degree of fall panicum control was rated June 10. Excellent control was achieved wherever some form of tillage was used in the current year regardless of the tillage treatment previously. Control was as low as 80% where no tillage was used in 1986. the encapsulated formulation of EPTC appeared to show some promise although it was not used without a follow-up postemergence treatment. Simazine provided some early control. Tridiphane plus cyanazine was relatively effective but simazine followed by cyanazine plus pendimethalin appeared to outrank the others slightly. (University of Illinois at Urbana-Champaign)

Table. Control of fall panicum. (Paul, Knake, Curran, and Harshbarger)

PRE	Herbicides POST	lb/A PRE POST	Corn bu/A									
			Plow '85 & '86	Disk '85 & '86	Zero '85 Plow '86	Zero '85 Disk '86	Plow '85 Zero '86	Disk '85 Zero '86	Zero '85 & '86	Mean		
EPTC	Tridiphane + cyanazine + X-77	4 0.5 + 2 + 0.25%	116	115	101	127	128	106	113	115		
EPTC	Cyanazine + pendimethalin + X-77	4 2 + 1 + 0.25%	120	122	111	122	117	103	111	115		
Simazine	Tridiphane + cyanazine + X-77	2 0.5 + 2 + 0.25%	109	126	120	121	127	126	117	121		
Simazine	Cyanazine + pendimethalin + X-77	2 2 + 1 + 0.25%	114	126	117	125	119	115	116	119		
Mean			115	122	112	124	123	113	114	118		

EPTC - 3S Encapsulated.

Simazine 90DF

Table. Fall panicum and tillage study (Elwood NW-700). (Paul, Knake, Curran, and Harshbarger)

Treatment	Appl.	Rate lb ai/A	% Control of Fall Panicum										Mean
			Plow '85	Disk '85	Disk '86	Plow '86	Zero '86	Disk '86	Plow '86	Zero '86	Disk '86	Zero '86	
Eradicane 3S/ Bladex 90DF+ Tandem 4E+ X-77	PRE EPO	4.0 2.0 0.5 0.25%	100	100	100	100	100	100	100	100	80	93	96
Eradicane 3S/ Bladex 90DF+ Prowl 4EC+ X-77	PRE EPO	4.0 2.0 1.0 0.25%	100	100	100	100	100	100	97	93	82	93	96
Princep 90DF/ Bladex 90DF+ Tandem 4E+ X-77	PRE EPO	2.0 2.0 0.5 0.25%	100	100	100	100	100	100	93	98	87	98	97
Princep 90DF/ Bladex 90DF+ Prowl 4EC+ X-77	PRE EPO	2.0 2.0 1.0 0.25%	100	100	100	100	100	100	100	100	97	100	100
Mean:			100	100	100	100	100	100	98	87		96	

NOTE: Eradicane 3S is an encapsulated formulation.

## CONTROL OF WHEAT AND RYE FOR NO-TILL PLANTING OF SOYBEANS

Lyle E. Paul, Ellery L. Knake, and William S. Curran

During the 1985-86 winter there was considerable reduction in stands of wheat in Illinois. This prompted questions on how the remaining wheat might be killed for no-till production of soybeans or corn. There is also routine interest in use of rye or wheat for cover crops with subsequent no-till as a soil conserving practice. The purpose of this study was to determine how wheat and rye might serve as a cover and then be killed for no-till production of soybeans. The study was established on a field with Andres silt loam and Drummer silty clay loam at the Northeastern Illinois Agronomy Research Center near Elwood. The field had about 2% slope and 2 to 4% organic matter. Rye and Argee wheat were seeded in adjacent areas in the fall of 1985. Herbicides were applied April 29, 1986 and BSR 201 soybeans planted May 6 in 30 inch rows at 45 pounds per acre. No tillage or cultivation was used in 1986. At time of herbicide application on April 29, wheat was 6 inches with 4 to 6 tillers and rye was 12 inches, jointed and had 4 to 6 tillers. Herbicides were applied between 11:00 a.m. and 1:00 p.m. Soil temperature was 51°F at the 2 inch depth. Air temperature ranged from 45 to 58°F for the day and relative humidity from 74 to 100%. Wind was 5 mph from the SW. There was 25% cloud cover. There was little rain between April 15 and April 30. However, there was 0.31 April 30 and 0.2 inch May 1st. The wheat gave 20% ground cover and rye 80%. A tractor mounted compressed air sprayer unit with flat fan nozzle tips, 30 psi pressure was used at 3 mph to give 25 gpa. Metolachlor at 2.5 lb/A plus 0.5 lb/A metribuzin plus 1 qt/A COC was added to each herbicide treatment. Control of annual weeds was excellent. Ratings were made for degree of wheat and rye control on June 10. Dalapon gave fair control of wheat but less control of rye and gave significant soybean injury. Glyphosate gave better control of wheat and rye than did glufosinate, however with the highest rate of 1 lb/A glyphosate (i.e., 4 lb a.i./gal) control of wheat was only rated 70% and rye 65% on June 10. Paraquat at 0.5 lb/A gave control rated as fair on June 10 but was rated fairly good on both wheat and rye by September 9. Three of the best treatments for wheat were fluazifop-P, haloxyfop, and DPX-Y6202. However, on rye DPX-Y6202 or paraquat were considered the two best treatments, giving 73% control by June 10 and 90% by September 9. Based on this study the best controls for wheat appear to be haloxyfop, DPX-Y6202, fluazifop-P or paraquat. For rye, paraquat or DPX-Y6202 appear best. However, further research is suggested. (University of Illinois at Urbana-Champaign)

Table. Control of wheat and rye cover crops for soybeans. (Paul, Knake, and Curran)

	lb/A	% Crop Injury 6/10	Percent Control				bu/A	
			6/10		9/9			
			Wheat	Rye	Wheat	Rye	Wheat	Rye
Check - Untreated		0	0	0	0	0	19	28
Dalapon	2	50	45	15	50	15	16	21
Dalapon	3	60	60	25	65	45	19	21
Dalapon	4	70	75	35	85	55	14	19
Glyphosate	0.5	0	20	20	20	5	25	27
Glyphosate	0.75	0	50	55	30	55	29	30
Glyphosate	1	0	70	65	80	80	44	38
Glufosinate	0.5	0	10	10	5	0	28	30
Glufosinate	0.75	0	45	20	35	15	38	32
Glufosinate	1	0	60	30	45	35	28	30
Paraquat	0.25	0	40	40	30	40	33	29
Paraquat	0.5	0	65	73	85	90	43	35
Sethoxydim	0.25	0	30	20	10	5	30	28
Fluazifop-P	0.25	0	90	35	100	35	40	35
DPX-Y6202	0.125	0	93	73	100	90	43	37
Haloxifop	0.125	0	93	50	100	55	41	36
Fenoxaprop	0.125	0	20	20	5	20	35	39
RE-45601	0.125	0	55	20	40	25	37	33
BAS-51702	0.125	0	60	40	35	60	35	41
LSD 0.05		0.7	14.6	12.0	3.6	2.4	13.6	8.6

Added to each of above: Metolachlor 2.5 lb/A + Metribuzin 0.5 lb/A + COC 1 qt.

## CONTROL OF WHEAT AND RYE FOR NO-TILL PLANTING OF CORN

Lyle E. Paul, Ellery L. Knake, and William S. Curran

The primary purpose of this study was to evaluate herbicides for control of rye and wheat cover crops where these are to be killed for no-till planting of corn. The study was established at the Northeastern Illinois Agronomy Research Center near Elwood on predominantly Drummer silty clay loam with about 5% organic matter and pH of 5.6. Rye and Argee wheat were planted in the fall of 1985. On April 29, 240 lb/A nitrogen as ammonium nitrate was applied. Herbicides were applied May 5 and Pioneer Brand 3475 corn planted in 30 inch rows the same day. Herbicides were applied between 1:30 and 3:00 p.m. Soil temperature at the 2 inch depth was 59°F and air temperature ranged from 56 to 76°F for the day. Relative humidity ranged from 44 to 72% for the day. Wind was from the SW at 15 mph and sky had 20% cloud cover. Wheat was well tillered and rye was in the boot stage. Wheat was about 8 inches and rye 15 inches. Alachlor at 3 lb/A and 1 qt/A crop oil concentrate was added to all herbicide treatments. There was 0.54 inch of rain during the week preceding herbicide application, only 0.4 inch during the first week after application and 0.82 inch the next week. A tractor mounted compressed air spray unit was used with flat fan nozzle tips, 30 psi pressure and 3 mph to give 25 gpa. Plots were rated June 10 and September 9. Dalapon gave relatively good control of wheat but not of rye and caused a little crop injury. Atrazine gave fair control alone but combined with paraquat was considered the best treatment with very good control of both wheat and rye. Results with cyanazine alone at the higher rate were rated fair early but relatively good by September. The atrazine plus cyanazine combinations at the higher rates also gave fairly good control. Cyanazine plus paraquat was not quite as good as atrazine plus paraquat early but by September both were quite good. Dalapon plus tridiphane plus atrazine also gave relatively good control but with a little corn injury. Control of annual grass and broadleaf weeds was very good on all plots. In summary, when attempting to control wheat or rye cover for no-till planting of corn, atrazine plus paraquat appears to be one of the most feasible treatments, although cyanazine plus paraquat is also a possibility. If triazines alone are to be used, a combination of atrazine and cyanazine can be considered to allow higher use rates. (University of Illinois at Urbana-Champaign)

Table. Control of wheat and rye cover crops for corn. (Paul, Knake, and Curran)

	lb/A	% Crop Injury 6/10	Percent Control						bu/A	
			6/10		9/9		Wheat	Rye	Wheat	Rye
			Wheat	Rye	Wheat	Rye				
Dalapon	3	10	80	20	92	20	147	113		
Atrazine	1.5	0	35	35	35	50	155	157		
Atrazine	3	0	65	65	85	75	160	145		
Cyanazine	2	0	25	45	25	50	133	150		
Cyanazine	4	0	60	75	80	90	165	139		
Atr. + cyanazine	1.5 + 1.5	0	50	60	52	80	158	166		
Atr. + cyanazine	2 + 2	0	83	75	95	85	157	148		
Atr. + cyanazine	1.5 + 3	0	83	75	87	80	180	162		
Paraquat + atr.	0.5 + 2	0	93	93	100	97	166	152		
Paraquat + cyanazine	0.5 + 3	0	85	88	97	97	169	167		
Dalapon + tridiphane + atr.	2 + 0.5 + 2	5	85	60	97	80	164	145		
Check - Untreated		0	0	0	0	0	122	137		
LSD 0.05		4.6	24.3	12.7	2.8	3.1	35	40		

Added to each herbicide treatment: alachlor 3 lb/A + COC 1 qt/A.

## SOYBEANS NO-TILL IN ALFALFA AND CLOVER SOD

Ellery L. Knake, Lyle E. Paul, William S. Curran, and Dale E. Harshbarger

Although it would usually seem preferable to follow clover or alfalfa with corn, some farmers who would have had corn where they have clover or alfalfa for set-aside prefer to plant soybeans to return to their usual cropping sequence. The purpose of this study was to evaluate several fall and spring treatments for degree of control and crop injury. The study was conducted at the Northeastern Illinois Agronomy Reserach Center near Elwood on Drummer silty clay loam with 5 to 6% organic matter. Mammoth red clover and winter hardy alfalfa were seeded in adjacent areas on April 30, 1985 using a Brillion seeder. Good stands were established. Fall treatments for killing the alfalfa and clover were applied September 27, 1985 between 4:00 and 5:00 p.m. The 2,4-D was a butoxyethyl low volatile ester. Soil temperature was 66°F at the 2 inch depth and air temperature 65°F. Relative humidity was 42% and sky was clear. Clover was 6 inches and alfalfa 12 inches with both green and actively growing. Spring treatments were applied April 29, 1986 between 2:30 and 3:30 p.m. Soil temperature at 2 inch depth was 51°F. Air temperature was 77°F and relative humidity 40%. Wind was from the SW at 5 mph and sky had 25% cloud cover. A tractor mounted compressed air spray unit was used with flat fan nozzle tips, 30 psi pressure, and 3 mph to give 25 gpa. A randomized complete block design was used with three replications. BSR 201 soybeans were planted in 30 inch rows on May 6, 1986 at a rate of 45 pounds per acre. No tillage or cultivation was used for the soybeans in 1986. At time of spring herbicide application, clover was 4 inches and alfalfa 12 inches with both green and actively growing. Metolachlor at 2 lb/A and metribuzin at 0.5 lb/A were applied to all plots at the time of the other spring treatments. Plots were rated June 9, 1986. Except for the lower rate of dicamba on alfalfa, all fall treatments gave very good control of alfalfa and red clover; spring treatments were less effective. Control of annual grass and broadleaf weeds was very good. The only soybean injury noted was from the 1 lb/A rate of 2,4-D butyoxxyethyl ester applied one week before planting soybeans. There was little or no significant difference in soybean height or number of trifoliolates per soybean plant as measured July 7 except perhaps where the clover or alfalfa was not adequately controlled and caused some suppression of the soybeans. This study helps to confirm that those wishing to kill clover or alfalfa and plant soybeans should plan ahead for fall herbicide treatments to achieve better control and to help avoid herbicide injury to soybeans. And do not plant soybeans in clover or alfalfa and then ask how to kill the clover and alfalfa in soybeans. (University of Illinois at Urbana-Champaign)

Table. No-till soybeans in alfalfa and clover sod. (Knake, Paul, Curran, and Harshbarger)

Treatments	lb/A	% Soybean Injury	% Control			Soybean Height inches	7/7		Soybeans bu/A	
			Alfalfa	Red Clover	6/9		Trifoliolates	Alfalfa	Clover	
Fall:										
Dicamba	0.5	0	80	100	100	24	19	47	53	
Dicamba	1	0	95	100	100	25	21	47	54	
Dicamba	2	0	100	100	100	24	20	47	53	
2, 4-D	1	0	100	100	100	24	19	49	56	
Dicamba + 2, 4-D	0.5 + 0.5	0	100	100	100	24	20	47	52	
Glyphosate	2	0	98	100	100	25	21	51	56	
Spring:										
Glypohsate	2	0	47	47	100	21	18	31	39	
2, 4-D	1	10	73	83	100	22	20	38	52	
LSD 0.05		0.1	12.8	4.9	NSD	2.0	3.5	7.0	6.5	

All plots: Metolachlor + metribuzin at 2 + 0.5 lb/A on 4/29/86.

## LACTOFEN POSTEMERGENCE FOR SOYBEANS IN NORTHEASTERN ILLINOIS

Ellery L. Knake, Lyle E. Paul, and Dale E. Harshbarger

The purpose of this study was to evaluate degree of weed control and crop tolerance for lactofen postemergence in soybeans. The study was established at the Northeastern Illinois Agronomy Research Center near Elwood on a field with Drummer silty clay loam and Andres silt loam. A randomized complete block design was used with eight treatments replicated three times. Individual plots were 10 ft x 50 ft. Wells II soybeans were planted May 23 in 30 inch rows. Herbicide treatments were applied June 10 between 3:00 and 4:00 p.m. Soybeans were 3 inches with one trifoliolate leaf. Velvetleaf was 1.5 inches with three leaves, redroot pigweed 1 inch with three leaves, Venice mallow 1 inch with two leaves and green foxtail 1.5 inches with three leaves. Soil temperature was 61°F at 2 inch depth and air temperature ranged from 65 to 80°F for the day. Wind was SW at 10 mph and sky had 20% cloud cover. A tractor mounted compressed air sprayer with flat fan nozzle tips and 30 psi pressure was operated at 3 mph to give 25 gpa. On June 24 the entire area was treated with 0.25 lb/A fluazifop-P for more complete control of grass weeds. Rainfall was 1.07 inches two days prior to lactofen applications on June 10, 0.06 inch on June 14, and 0.93 inch on June 15. The next significant rain was 1.03 inches June 28. Ratings were made June 19 and June 24. All herbicide treatments gave excellent control of annual broadleaf weeds and some suppression of annual grass and volunteer corn. All treatments gave some crop injury but lacotfen plus 10-34-0 appeared to give the least injury. (University of Illinois at Urbana-Champaign)

Table. Lactofen postemergence for soybeans in northeastern Illinois.  
(Knake, Paul, and Harshbarger)

Treatments	lb/A	% Soybean Injury 6/19/86	% Control 6/19/86			
			Vele	Rrpw	Vema	Gift
Lactofen	0.2	6.7	100	100	100	50
Lactofen + X-77	0.2 + 0.25%	13	100	100	100	80
Lactofen + COC	0.2 + 1 pt	16.7	100	100	100	80
Lactofen + bentazon + COC	0.15 + 0.5 + 1 qt	13	100	100	100	50
Lactofen + 2,4-DB	0.2 + 0.03	10	97	100	100	50
Lactofen + 10-34-0	0.2 + 1 qt	5	100	100	100	57
Check - Untreated		0	0	0	0	0
Check - Weed-Free		0	100	100	100	100

		% Soybean Injury 6/24/86	Height of SB 6/24/86	% Control 6/24/86			Soybeans bu/A
				Vele	Rrpw	Vema	
Lactofen	0.2	10	8	100	100	100	45
Lactofen + X-77	0.2 + 0.25%	10	8	100	100	100	41
Lactofen + COC	0.2 + 1 pt	10	7	100	100	100	42
Lactofen + bentazon + COC	0.15 + 0.5 + 1 qt	8.3	8	100	100	100	42
Lactofen + 2,4-DB	0.2 + 0.03	10	8.3	97	100	100	44
Lactofen + 10-34-0	0.2 + 1 qt	5	8.5	100	100	100	44
Check - Untreated		0	9	0	0	0	32
Check - Weed-Free		0	9	100	100	100	45

LSD 0.05

4.8

## PERSISTENCE OF DPX-F6025 AS AFFECTED BY pH AND TILLAGE

William S. Curran, Ellery L. Knake, Lyle E. Paul, and Dale E. Harshbarger

The primary purpose of this study is to determine to what extent DPX-F6025 applied for weed control in soybeans might carry over to the next season and affect corn. The experimental area is on a field designated as SE700 at the Northeastern Agronomy Research Center near Elwood. Soil is a silt loam to silty clay loam. The design is a factorial with tillage treatments as main plots replicated three times. Subplots have had pH adjusted to pH 5.5, 6.2, and 6.8. The soybean plots were further divided in 1986 for DPX-F6025 rates of 0, 0.5, 1.0, and 1.5 oz/A a.i. Corn and soybeans are grown in sequence with half of the plots in corn and half in soybeans each year. Tillage treatments consist of chisel plowing for all corn stalks followed by secondary tillage in the spring. For soybean stubble the three treatments are 0-till corn into soybean stubble, disking soybean stubble, and chisel plowing followed by disking. In 1986, all corn plots were treated uniformly with 3 lb/A alachlor plus 2 lb/A atrazine on May 6. In addition to the DPX-F6025 treatments for soybeans, all soybeans were uniformly treated with 3 lb/A alachlor on May 6 and 1.0 lb/A bentazon plus 1 qt/A crop oil concentrate on June 9. Plots were also hand hoed as needed in an attempt to keep all plots nearly weed free. The DPX-F6025 treatments as well as the other May 6 treatments were applied between 7:30 a.m. and noon. Soil temperature at the 2 inch depth was 65°F and air temperature ranged from 63 to 83°F. Relative humidity ranged from 52 to 98% for the day. Wind was 5 mph from the SSW and sky was overcast. There was 0.53 inch of rain during the previous week, 0.2 inch just before application on May 6, and 1.2 inches during the two weeks following treatment. All applications on May 6 were surface applied to the soil. A tractor mounted compressed air sprayer with flat fan nozzle tips was used with 30 psi pressure at 3 mph to give 25 gpa. Pioneer Brand 3475 corn was planted May 5 and BSR 201 soybeans were planted May 6. Row width was 30 inches. This is a rather large experiment comprising about four acres. Degree of weed control from DPX-F6025 increased with increasing rate. No significant crop injury was noted in 1986 during field observations. Corn will follow soybeans for 1987 and further observations and yields will be taken. (University of Illinois at Urbana-Champaign)

Table. Effect of DPX-F6025 on soybean yield - bu/A. Elwood - 1986.

pH	DPX-F6025 - oz/A a.i.				Mean
	0	0.5	1.0	1.5	
5.5	47.6	46.0	44.4	45.3	45.8
6.2	47.4	47.5	45.8	47.3	47.0
6.8	48.9	48.2	48.3	47.5	48.2
Mean	48.0	47.2	46.2	46.7	47.0

Table. Effect of tillage and pH on yield of corn following soybeans. Bu/A. Elwood.

pH	Chisel	Disk	Zero	Mean
5.5	156	151	145	151
6.2	162	152	152	155
6.8	150	157	149	152
Mean	156	153	149	153

LSD 0.05 = 14.2

## CONTROL OF CLOVER AND ALFALFA FOR NO-TILL CORN

Ellery L. Knake, Robert W. Koethe, and Glenn A. Raines

The primary purpose of this study was to evaluate herbicide treatments for control of clover, alfalfa, and annual weeds where corn is being planted no-till in clover and alfalfa sod. The study was conducted at the Orr Agricultural Research and Demonstration Center in western Illinois near Perry on Rozetta silt loam with about 2% organic matter and 2 to 7% slope with slight to moderate erosion. A randomized complete block design was used with seven treatments each for clover and alfalfa replicated four times. Vernal alfalfa and medium red clover were seeded in separate areas on May 7, 1985, and good stands established. The 1986 treatments for controlling alfalfa, clover and annual weeds were applied May 2 with additional treatments to alfalfa May 27. Herbicides for alfalfa were applied 8:30 to 9:20 a.m. and for clover 9:20 to 10:20 a.m. on May 2. Alfalfa was 18 inches and clover 9 inches with both actively growing. Soil temperature under grass sod was 55 to 60°F and air temperature ranged from 40 to 79°F for the day. Relative humidity ranged from 36 to 100%. Wind was NNW at 5 mph and sky was clear. A tractor mounted compressed air sprayer with flat fan nozzle tips was used with 30 psi pressure at 3 mph for 25 gpa. There was 0.77 inch of rain May 1, the day prior to spraying, and 1.4 inch from May 9 through May 19. For the early postemergence treatments to corn in the alfalfa, the same equipment was used between 9:00 and 10:00 a.m. on May 27. Soil temperature under sod was 68°F and air temperature ranged from 58 to 66°F that day. Relative humidity was 90 to 100%. Wind was from the west at 6 mph and sky was clear. There was 0.07 inch of rain the previous day and 0.33 three days after application. Ratings were taken June 17 and August 27. Very good control of alfalfa and clover was achieved with all treatments. Control of annual broadleaf weeds was also very good. For the clover study, atrazine alone was weak on annual grass and cyanazine alone or combined with atrazine less so. Addition of metolachlor was very beneficial for improving annual grass control. For the alfalfa study, addition of metolachlor to dicamba improved annual grass control. However, for dicamba plus atrazine (Marksman) grass control as well as control of annual broadleaves and alfalfa was very good and metolachlor gave no further improvement. The encapsulated EPTC appeared to be effective but further evaluation would be appropriate. Although mice or other rodents have sometimes presented a significant problem for no-till corn at this research station in the past, they were not a serious problem this year. The results of this study further confirm the feasibility of growing no-till corn after clover or alfalfa. This could help reduce cost of production and could be very helpful for conserving soil on the sloping land of this area of the state. The increasing interest in alfalfa production for processing in this area is another factor to consider. Good management is needed to help assure success with this type of no-till culture. If perennial grass is seeded with the legume, control cost can increase significantly. And care should be taken to avoid crop injury from rodents. This study further confirms that shallow rooted clover can be controlled with triazines but addition of a herbicide to strengthen control of annual grass should be considered for some fields. For control of the deeper rooted alfalfa, dicamba has performed well. Addition of another herbicide may be useful in some fields to improve annual grass control. (University of Illinois at Urbana-Champaign)

Table. Control of clover and alfalfa for no-till corn. (Knake, Koethe, and Raines)

Treatments	lb/A	% Control			bu/A		
		Annual Grass	Annual Broadleaves	Clover			
<u>CLOVER</u>							
Atrazine	2	63	100	100	108		
Atrazine + metolachlor	2 + 2	97	100	100	197		
Cyanazine	3	83	95	100	165		
Cyanazine + metolachlor	3 + 2	94	98	100	178		
Atrazine + cyanazine	1.5 + 1.5	85	100	100	187		
Atrazine + cyanazine + metolachlor	1.5 + 1.5 + 1.5	90	99	100	178		
Check - Untreated		55	45	0	43		
<u>ALFALFA</u>							
PRE	lb/A	POST	lb/A	% Control			bu/A
				Annual Grass	Annual Broad-leaves	Alfalfa	
Dicamba	0.25	dicamba	0.5	74	98	98	105
Dicamba + metolachlor	0.25 + 2	dicamba	0.5	93	95	100	123
Dicamba* + atr.	0.4 + 0.8	dicamba* + atr.	0.4 + 0.8	99	99	100	150
Dicamba* + atr. + metolachlor	0.4 + 0.8 + 2	dicamba* + atr.	0.4 + 0.8	99	99	100	138
EPTC** + dicamba	4 + 0.25	dicamba	0.5	83	99	100	101
EPTC** + dicamba* + atr.	4 + 0.4 + 0.8	dicamba* + atr.	0.4 + 0.8	99	100	100	117
Check - Untreated				95	99	0	96

\*Marksman.

\*\*Encapsulated and included dichlormid.

# SOYBEANS NO-TILL AFTER CORN IN WESTERN ILLINOIS

Ellery L. Knake, Robert W. Koethe, Glenn A. Raines, and David R. Pike

The primary purpose of this experiment was to evaluate several herbicide treatments for no-till soybeans following corn. Plots were established at the Orr Agricultural Research and Demonstration Center near Perry on a field with Fayette and Rozetta silt loam that had been in corn the previous year. Herbicides were applied May 2 from 3:30 to 4:15 p.m. Soil temperature under sod was 55 to 60°F and air temperature ranged from 40 to 79°F for the day. Relative humidity was 36 to 100% and sky was clear. Wind was from the north at 5 mph. The soil was completely covered by corn crop residue from the previous year. A tractor mounted compressed air spray unit with flat fan nozzle tips and 30 psi pressure was used at 3 mph to give 25 gpa. One qt/A COC was added to each herbicide treatment. The 2,4-D was a butoxyethyl ester formulation. There was 0.33 inch of rain three days prior to herbicide application and 1.55 inches five days after. FS352 soybeans were planted 10 seeds per foot in 30 inch rows on May 21. The design was a randomized complete block with three replications. Weeds present at time of spraying included common lambsquarters 3 inches with 18 leaves and fall panicum 1.5 inches with two leaves. There was also some Pennsylvania smartweed, dandelion, shepherd's purse, common chickweed and tall fescue. Ratings were taken June 17 and August 27. No significant crop injury was noted with any of the herbicides. All were about equal in giving relatively good control of Pennsylvania smartweed. The major difference was in control of common lambsquarters which became quite serious where not controlled. Sethoxydim plus 2,4-D plus metolachlor or metribuzin gave the best control of lambsquarters while imazaquin did not give good control of that which was emerged. Fluazifop-P plus pendimethalin or haloxyfop appeared to give control of existing grass and residual preemergence control of annual grass. (University of Illinois at Urbana-Champaign)

Table. Soybeans no-till after corn. (Knake, Koethe, Raines, and Pike)

Treatments	lb/A	% Crop Injury	% Control		
			Fapa	Pesw	Colq
Sethoxydim + 2,4-D	0.2 + 0.5	0	91	100	100
metolachlor + metr.	2 + 0.38				
Fluazifop-P +	0.2 + 1 +	0	92	100	87
pendimethalin +	0.125				
imazaquin					
Haloxyfop + imazaquin	0.38 + 0.125	0	92	100	48
Check - Untreated		0	0	0	0

## HERBICIDES FOR NO-TILL SOYBEANS AFTER CORN

Ellery L. Knake, Robert W. Koethe, and Glenn A. Raines

The purpose of this study was to evaluate a multitude of herbicide treatments for controlling both existing vegetation and providing residual preemergence control of weeds associated with no-till. The study was conducted at the Orr Agricultural Research and Demonstration Center near Perry in western Illinois on Fayette silt loam with 2% organic matter and 7% slope. The design was a randomized complete block with three replications. Early herbicide treatments were applied May 2 between 2:00 and 3:30 p.m. A tractor mounted compressed air sprayer with flat fan nozzles and 30 psi pressure was used at 3 mph to give 25 gpa. Soil temperature under sod was 55 to 60°F and air temperature 40 to 79°F. Relative humidity ranged from 36 to 100 for the day. Wind was 2 mph from the north and sky was clear. The 2,4-D was a butoxyethyl LV ester formulation. The soil was almost completely covered with corn crop residue from the previous year. FS352 soybeans were planted May 21 in 30 inch rows to give 10 plants per foot. Later postemergence treatments were made June 16 between 3:45 and 4:00 p.m. when soybeans were 8 inches with three trifoliolates. Soil temperature was 69 to 77°F under sod and air temperatures 66 to 86°F. Relative humidity was 55 to 90%, sky had 5% cloud cover and wind was from the west at 3 mph. There was 0.33 inch of rain three days prior to the first herbicide application and 1.55 inches five days after. For the later postemergence treatments there was 1.18 inches of rain the previous day and 1.04 inches 13 days after. For the May 2 application, fall panicum was 2 inches with 3 leaves; common lambsquarters was 3 inches with 18 leaves; common chickweed was 13 inches with 22 leaves; and some dandelion was present. For the later treatment on June 16, fall panicum was 14 inches with 11 leaves; common lambsquarters was 5 inches with 16 leaves; eastern black nightshade was 13 inches with 32 leaves and smooth groundcherry was 14 inches with 66 leaves. Ratings were made June 17 and August 27. Control of common lambsquarters was considered quite good with all herbicide treatments except imazaquin. For fall panicum, haloxyfop plus metribuzin and DPX-F6025 gave the best control. Paraquat, glyphosate, or glufosinate with metolachlor and metribuzin added to each gave between 85 and 90% control of fall panicum. Oryzalin appeared to be weak on fall panicum in this study. Flauzifop appeared to be more effective than sethoxydim. Many of the treatments were considered only fair for fall panicum control. While there is reason for optimism with corn no-till after soybeans, no-till soybeans after corn remains more of a challenge and further research seems appropriate. (University of Illinois at Urbana-Champaign)

Table. Herbicides for no-till soybeans after corn. (Knake, Koethe, Raines)

Treatments	lb/A	% Control			
		6/17		8/27	
		Fapa	Colq	Fapa	Colq
Check - Untreated		0	0	0	0
Paraquat + metolachlor + metribuzin + X-77	0.5 + 2 + 0.5	88	100	60	90
Glyphosate + metolachlor + metribuzin	1 + 2 + 0.5	90	100	93	97
Glufosinate + metolachlor + metribuzin	1 + 2 + 0.5	85	100	70	100
PRE: Sethoxydim + 2,4-D + COC	0.2 + 0.5	23	100	70	93
POST: Sethoxydim + bentazon + acifluorfen + X-77	0.2 + 0.5 + 0.38				
PRE: Fluazifop-P + 2,4-D + COC	0.2 + 0.5	43	100	77	93
POST: Fluazifop-P + bentazon + acifluorfen + X-77	0.2 + 0.5 + 0.38				
Oryzalin + 2,4-D	1 + 0.5	30	100	33	97
Fluazifop-P + oryzalin + 2,4-D + COC	0.2 + 1 + 0.5	78	100	83	97
Linuron + pendimethalin + Surfactant WK	1 + 1	63	100	87	97
Linuron + oryzalin + Surfactant WK	1 + 1	63	100	80	97
Paraquat + linuron + pendimethalin + Surfactant WK	0.5 + 1 + 1	77	100	70	97
Paraquat + linuron + oryzalin + Surfactant WK	0.5 + 1 + 1	68	100	60	97
Haloxifop + imazaquin + COC	0.25 + 0.125	70	40	67	50
Haloxifop + DPX-L8347 + COC	0.25 + 7.49 oz	95	100	93	100
RE-45601 + imazaquin + COC	0.25 + 0.125	47	50	37	57
RE-45601 + DPX-L8347 + COC	0.25 + 7.49 oz	78	100	72	100
DPX-Y6202 + imazaquin + COC	0.125 + 0.125	67	50	47	67
DPX-Y6202 + DPX-L8347 + COC	0.125 + 7.49 oz	75	100	53	80

COC - 1 qt/A.

X-77 - 0.25%

Surfactant WK - 0.5%.

## CORN NO-TILL IN CLOVER SOD IN WESTERN ILLINOIS

Ellery L. Knake, Robert W. Koethe, and Glenn A. Raines

The purpose of this study was to further evaluate herbicide treatments for killing clover and controlling weeds for production of no-till corn where clover was previously used for livestock, set-aside, or perhaps seed production. Previous research indicated triazines or dicamba to be quite effective for killing clover. In this study we investigated the possible need for addition of a herbicide such as metolachlor to improve annual grass control. Plots were established using a randomized complete block design with four replications at the Orr Agricultural Research and Demonstration Center near Perry. The field was on Rozetta silt loam with 2% organic matter and 2 to 7% slope. Medium red clover had been seeded May 7, 1985 and a relatively good stand established. Fertilizer applied for 1986 was 200 lb/A nitrogen, 180 lb/A  $P_2O_5$  and 200 lb/A  $K_2O$ . Early herbicide treatments were applied May 2 between 3:40 and 4:40 p.m. Clover was 9 inches tall and actively growing. Soil temperature under sod was 70 to 76°F for the day and air temperature 53 to 87°F. Relative humidity was 42 to 91%. Wind was from the north at 2 mph and sky was clear. A tractor mounted compressed air sprayer with flat fan nozzle tips was used with 30 psi pressure at 3 mph to give 25 gpa. There was 0.33 inch of rain 3 days earlier and 1.55 five days after application. DeKalb 484 corn was planted to give 24,200 plants per acre. For some treatments an early postemergence application was also made on May 27. Soil temperature under sod was 68°F and air temperature 58 to 66. Relative humidity was 90 to 100%. Wind was 5 mph from the west and sky was clear. Ratings were made June 17 and August 27. Excellent control of the clover was achieved with all treatments. Favorable rainfall may have contributed. Control of redroot pigweed was also excellent. No significant corn injury was noted. One of the most successful treatments in this and other studies for control of shallow rooted clover has been a combination of atrazine and cyanazine. A treatment of 0.25 lb/A dicamba prior to planting followed by an early postemergence treatment of 0.5 lb/A has also been quite good for clover or deeper rooted alfalfa. In past studies metolachlor has usually been added to help assure annual grass control. In this study the triazine and the dicamba treatments were each tried with and without metolachlor. With atrazine plus cyanazine, metolachlor tended to improve giant foxtail control slightly. However, for dicamba, the addition of metolachlor appeared to be more important and the 1.5 lb/A rate used here may have been a little low. The dicamba plus atrazine applied both preemergence and postemergence while good on clover and pigweed could use a little help on annual grass. We would conclude that while addition of a herbicide such as metolachlor may not always be essential in this program, it will likely often be quite helpful, depending on what other herbicides are used. (University of Illinois at Urbana-Champaign)

Table. Corn no-till in clover sod in western Illinois. (Knake, Koethe, and Raines)

Treatment	lb/A	% Control 6/17			bu/A
		Clover	Gift	Rrpw	
Atrazine + cyanazine + COC	1.5 + 1.5 + 1 qt	100	88	100	110
Atrazine + cyanazine + COC + metolachlor	1.5 + 1.5 + 1 qt + 1.5	100	91	100	104
Dicamba PRE + dicamba POST	0.25 + 0.5	100	49	100	66
Dicamba + metolachlor + COC + dicamba POST	0.25 + 1.5 + 1 qt + 0.5	100	78	100	68
Dicamba* + atrazine PRE + dicamba* + atrazine POST	0.4 + 0.8 + 0.4 + 0.8	100	71	100	110

\*Marksman

## LACTOFEN POSTEMERGENCE FOR SOYBEANS IN WESTERN ILLINOIS

Ellery L. Knake, Glenn A. Raines, and David R. Pike

The purpose of this study was to evaluate lactofen alone and with various additives for postemergence weed control in soybeans. The study was conducted at the Orr Agricultural Research and Demonstration Center near Perry on Rozetta silt loam that was relatively level. The design was a randomized complete block with four replications. Soybeans were planted June 4 with a drill to give a row spacing of 10 inches. Herbicides were applied June 16 between 2:00 and 3:00 p.m. when soybeans had two unifoliolate leaves and were 2.5 inches high. Soil temperature under sod was 69 to 77°F and air temperature was 66 to 86°F. Relative humidity was 55 to 90%. Wind was 4 mph from the WNW and sky had 10% cloud cover. Crop residue from the previous corn crop was estimated as giving 5% soil cover. A tractor mounted compressed air sprayer with flat fan nozzle tips and 30 psi pressure was used at 3 mph to give 25 gpa. There was 1.18 inches of rain the previous day and no rain after application until June 28 with 1.04 inches. At time of treatment common ragweed was 1.5 inch with four leaves; redroot pigweed was 0.5 inch with one leaf, common lambsquarters was 0.5 inch with two leaves, ivyleaf morningglory was 1 inch with one leaf and giant foxtail was 1 inch with three leaves. All treatments with lactofen alone or in combination with other herbicides or additives gave excellent control of broadleaf weeds and about 20% suppression of giant foxtail. Soybean injury was evident with all herbicide treatments with lactofen and was rated as 5 to 10%. Treatments with crop oil concentrate gave the most injury and lactofen alone or with 10-34-0 or 2,4-DB gave the least, with lactofen plus X-77 in between. Reduction in soybean height followed the same general trend. Ratings were made when the 3rd trifoliolate was unfolding and it appeared normal. However, the unifoliolates were "burned" and some had fallen. The first two trifoliolates were wrinkled with the second showing less than the first. This and other tests indicate that when applied early lactofen has a broad spectrum of control for broadleaf weeds and can give a little suppression of annual grass weeds and volunteer corn. Little if any difference in weed control was noted for lactofen alone or with other herbicides or additives. However, the addition of 10-34-0 generally appeared to give less injury than COC and perhaps a little less than X-77 surfactant. (University of Illinois at Urbana-Champaign)

Table. Lactofen postemergence on drilled soybeans. (Knake, Raines, and Pike)

		6/26/86					
Treatment	lb/A	% Soybean Injury	Height of Soybean inches	% Control of			Soybeans bu/A
				Corw	Prsi	Gift	
Lactofen	0.2	5	6	100	100	20	32.0
Lactofen + X-77	0.2 + 0.25%	7	5.5	100	100	20	35.7
Lactofen + COC	0.2 + 1 pt	10	5	100	100	20	33.0
Lactofen + bentazon + COC	0.15 + 0.5 + 1 pt	10	5	100	100	20	34.0
Lactofen + 2,4-DB	0.2 + 0.03	5	6	100	100	20	36.9
Lactofen + 10-34-0	0.2 + 1 qt	5	6	100	100	20	37.3
Check		0	7	0	0	0	33.8
LSD 0.05				NS	NS	NS	6.3

## HERBICIDES FOR ESTABLISHING ALFALFA AND RED CLOVER

Ellery L. Knake, Michael J. Mainz, and John J. Sutor

The primary purpose of this study was to evaluate postemergence herbicides for grass control when establishing alfalfa and red clover without a small grain "nurse" crop. The study was established at the Northwestern Illinois Agricultural Research and Demonstration Center near Monmouth. The soil was Tama silt loam with a pH of 5.5, a  $P_1$  test of 53 and a K test of 450 for samples taken the spring of 1986. The field had a 0 to 7% slope. Medium red clover and NK Thor and Gladiator alfalfa were seeded April 23 at a rate of 12 lb/A and a depth of 0.25 inch. The field had been in soybeans the previous year and was worked prior to seeding. Herbicides were applied June 2, between 10:00 and noon. alfalfa was 7 inches with five trifoliolates and clover was 3 inches with three trifoliolates. Both were actively growing. Temperature at the 4 inch depth under bare soil was at a low of 65°F for the day, air temperature ranged from 46 to 88°F and humidity range was 36 to 92 percent. Wind was 8 mph ENE and sky was clear. There was 0.82 inch of rain about a week earlier and 0.82 during a four day period beginning the 2nd day after treatment. the design was a randomized complete block with nine treatments each replicated three times. Individual plots were 10 x 180 ft. A tractor mounted compressed air sprayer with flat fan nozzle tips was used with 30 psi pressure and a speed of 3 mph to give 25 gpa. Crop oil concentrate for 1 qt/A and 2,4-DB for 1 lb/A were added to each treatment including the check. At time of treatment giant foxtail was 8 inches with six leaves, velvetleaf was 6 inches with four leaves, redroot pigweed was 5 inches with 16 leaves and common lambsquarters was 6 inches with 32 leaves. Ratings were taken June 25. Control of giant foxtail was excellent with all treatments and no injury to the legumes. There was no evidence of antagonism from 2,4-DB. Control of velvetleaf, redroot pigweed and common lambsquarters was rated 90%, jimsonweed 70% and eastern black nightshade 10% and would have been due to the 2,4-DB. This study gives further evidence that the new postemergence herbicides for grass control are quite effective for small-seeded legumes as well as soybeans and if registered for this use should provide a good means for controlling annual grass weeds such as giant foxtail for establishment. One philosophy might be to let the foxtail serve as a "nurse crop" early and then kill it selectively to allow the legume more opportunity to grow. (University of Illinois at Urbana-Champaign)

Table. Herbicides for establishing alfalfa and clover. (Ksnake, Mainz, and Sutor)

Treatment	lb/A	% Control					
		Gift	Jiwe	Vele	Rrpw	Colq	Ebns
Sethoxydim	0.25	100	70	90	90	90	10
Fluazifop-P	0.25	100	70	90	90	90	10
DPX-Y6202	0.125	100	70	90	90	90	10
Haloxifop	0.125	100	70	90	90	90	10
Fenoxaprop	0.125	100	70	90	90	90	10
RE-45601	0.125	100	70	90	90	90	10
BAS-51702	0.125	100	70	90	90	90	10
DPX-Y6202-31	0.063	100	70	90	90	90	10
Check		0	70	90	90	90	10

Added to each except check - 1 qt/A COC.

Added to each including check - 1 lb/A - 2,4-DB.

# POSTEMERGENCE CONTROL OF WEEDS FOR ESTABLISHING CLOVER AND ALFALFA

Ellery L. Knake, Robert W. Koethe, and Glenn A. Raines

The primary purpose of this study was to evaluate postemergence herbicides for grass control in seedling clover and alfalfa. The plots were established at the Orr Agricultural Research and Demonstration Center near Perry on Fayette and Downs silt loam with 1 to 2% organic matter and 4 to 7% slope.  $P_2O_5$  at 120 lb/A and 200 lb/A  $K_2O$  were applied. Vernal alfalfa and mammoth red clover were seeded May 3. The area was disked prior to seeding and rolled afterwards. Herbicides were applied June 16 between 3:30 and 4:00 p.m. Crop oil concentrate at 1 qt/A was added to each treatment. Giant foxtail was the predominant grass weed and was 8 inches tall. Clover and alfalfa were 6 to 8 inches tall. Soil temperature was 66 to 80°F and air temperature 66 to 86°F for the day. Relative humidity ranged from 55 to 90%. Wind was 5 mph from the WNW. There was 5% cloud cover. There was 1.18 inches of rain the day before spraying and the next rain was 1.04 twelve days after spraying. A tractor mounted compressed air sprayer was used with flat fan nozzle tips, 30 psi pressure and 3 mph to give 25 gpa. For control of broadleaf weeds, 1 lb/A 2,4-DB was added to each treatment. Control was not as good at this location as was experienced in some other similar studies.

Table. Weed control for establishing clover and alfalfa. (Knake, Koethe, and Raines)

Treatment	lb/A	% Control of Giant Foxtail
		8/27/86
Sethoxydim	0.25	47
Fluazifop-P	0.25	73
DPX-Y6202	0.125	87
Haloxypop	0.125	82
Fenoxaprop	0.125	67
Cloproxydim	0.125	70
BAS-51702	0.125	53

# RESIDUE STUDIES WITH FMC-57020, IMAZAQUIN, AC-263,499 AND DPX-F6025

Ellery L. Knake, William S. Curran, Lyle E. Paul,  
Michael J. Mainz, M. Gene Oldham, George Kapusta, and Ronald F. Krausz

Studies were established in 1986 at the Northern Illinois Agronomy Research Center near DeKalb, the Northwestern Illinois Agricultural Research and Demonstration Center near Monmouth, the Agronomy and Plant Pathology South Farm at Urbana, and the Southern Illinois University Research Center near Belleville. The primary objective of these studies is to obtain more definitive information on the persistence and fate of these herbicides in the soil and to determine the potential for residual carryover to corn the year following their application to soybeans. The study at DeKalb is a randomized complete block design on Drummer silty clay loam with organic matter of about 6%. The previous crop was corn. Tillage prior to planting soybeans included chisel plow, field cultivator, disk, and disk plus harrow. The plot area is designated as SW900 and has 17 treatments each replicated four times with individual plots 10 x 60 ft. BSR 201 soybeans were planted on May 7, 1986 in 30 inch rows at a rate of 55 lb/A. Herbicides were applied May 7, 1986 for soybeans between 3:00 and 4:30 p.m. Soil temperature at the 4 inch depth was 60 to 62°F. Air temperature ranged from 50 to 77°F for the day and relative humidity was estimated at 50 to 60%. Wind was calm and there was 5% cloud cover. There was 0.52 inch of rain one week before herbicide application and 4.14 inches during the 10 days after. On June 4, 0.2 lb/A fluazifop-P was applied to the entire plot area and the area was later hand hoed to maintain it weed-free. The study at Monmouth was on the south part of a field designated as A1 with primarily Muscatine silt loam and a little Sable silty clay loam and Tama silt loam. Drainage is good, organic matter 3 to 3.5%, and pH was 7.2 according to a 1981 soil test. Slope is 0 to 2%. P<sub>1</sub> test was 33 and K test 161 in 1983. K<sub>2</sub>O at 500lb/A and P<sub>2</sub>O<sub>5</sub> at 220 lb/A were applied during the winter of 1984-1985. The previous crop was corn. Shawnee II soybeans were planted in 30 inch rows May 8, 1986 at a rate of 135 lb/A at a depth of 1.2 inches. The field had been chisel plowed the previous fall and disked twice in the spring. The design was a randomized complete block with 17 treatments each replicated four times. Individual plots were 10 x 55 ft. Herbicides for soybeans were surface-applied between 11:30 a.m. and 1:30 p.m. immediately after planting on May 8. Soil temperature at the four inch depth was 61 to 74°F for the day and air temperature 54 to 80°F. Relative humidity ranged from 54 to 88%. Wind was from the east at 5 mph and sky was sunny with a slight haze. There was 0.92 inch of rain during the week before application and 2.93 inches during the 10 days after. At DeKalb and Monmouth the treatments were FMC-57020 at 0.75, 1.0, 1.5, and 2.0 lb/A; imazaquin at 0.0625, 0.125, 0.1875, and 0.25 lb/A; AC-263,499 at 0.047, 0.094, 0.141, and 0.188 lb/A; DPX-F6025 at 0.25, 0.5, 1.0, and 1.5 oz/A; and for a check, chloramben was used at 3.0 lb/A. The DeKalb and Monmouth plots were not cultivated. At Urbana, the study was established on a field designated as M9 100-200 with Drummer silty clay loam and Flanagan silt loam. The field was in a high state of fertility and no fertilizer was applied for 1986. The field had been in corn the previous year, was moldboard plowed in the fall of 1985 and tilled in the spring of 1986 for a good seedbed. Williams '82 soybeans were planted May 14, 1986 in 30 inch rows. Herbicides were surface-applied May 15 from 6:00 to 8:00 a.m. Soil temperature was estimated at 60°F and air temperature 65°F. Relative humidity was 100% with rain falling immediately after application. Wind was from the south at 5 mph and sky was 50% overcast. For DeKalb,

Monmouth and Urbana, tractor mounted compressed air sprayers with flat fan nozzle tips were used with 30 psi pressure and at 3 mph to give 25 gpa. At Urbana a randomized complete block design was used with 13 treatments each replicated four times. Individual plots were 10 x 72 ft. The Urbana plots were cultivated once on June 12 and plots hand hoed as needed to maintain weed-free. The herbicide treatments at Urbana were FMC-57020 at 1.0, 1.5, and 2.0 lb/A; imazaquin at 0.125, 0.1875, and 0.25 lb/A; AC-263,499 at 0.094, 0.141, and 0.188 lb/A; DPX-F6025 at 0.5, 1.0, and 1.5 lb/A; and chloramben at 3 lb/A as a check. The Belleville study was in area 3 of the field on Weir silt loam with 1.5% organic matter, pH of 6.6 and CEC of 9. A randomized complete block design with four replications was used. Individual plots were 10 x 30 ft with 30 inch row spacing. Fertilizer was 0-50-150 broadcast. Williams 82 soybeans were planted 1.0 inch deep at 60 lb/A. Herbicides were broadcast with a CO<sub>2</sub> sprayer using flat fan nozzle tips, 40 psi pressure, and 18.1 gpa. At Belleville, treatments were FMC-57020 at 0.5, 0.75, 1.0, 2.0, and 3.0; imazaquin at 0.625, 0.125, 0.1875, 0.25, and 0.375 lb/A; AC-263,499 at 0.047, 0.094, 0.125, 0.188, and 0.28; DPX-F6025 at 0.333, 0.667, 1.0, 1.33, and 2.0 oz/A. Bentazon + acifluorfen + COC and sethoxydim + COC were used at 0.5 + 0.25 and 0.2 lb/A for the herbicides as a check. Corn is to be planted in 1987, the second year of these studies, and observations and yields taken. (University of Illinois at Urbana-Champaign and Southern Illinois University at Carbondale cooperating)

Table. Effect of herbicides on weed-free soybeans.

	lb/A a.i.	bu/A		
		DeKalb	Monmouth	Urbana
FMC-57020	0.75	54.10	57.21	
FMC-57020	1.0	54.40	61.23	34.21
FMC-57020	1.5	54.88	60.60	37.58
FMC-57020	2.0	54.55	60.24	36.80
Imazaquin	0.062	53.73	59.40	
Imazaquin	0.125	52.95	57.32	36.80
Imazaquin	0.187	55.47	58.23	32.65
Imazaquin	0.25	53.43	54.21*	34.21
AC 263,499	0.047	55.88	58.70	
AC 263,499	0.094	55.23	57.13	34.21
AC 263,499	0.141	55.38	56.31*	31.88
AC 263,499	0.188	54.40	57.18	34.73
	oz/A			
DPX-F6025	0.25	54.55	59.84	
DPX-F6025	0.50	55.52	59.08	37.84*
DPX-F6025	1.0	54.30	55.30*	36.28
DPX-F6025	1.5	53.98	54.27*	37.06
Amiben - Check	3	53.02	59.27	32.65
LSD 0.05		2.89	2.62	4.99

\*Significantly differs from check.

SOUTHERN ILLINOIS UNIVERSITY  
PLANT AND SOIL SCIENCE DEPARTMENT

BELLEVILLE RESEARCH CENTER  
BELLEVILLE, ILLINOIS

DPX-F6025 - COMMAND - SCEPTER - PURSUIT ROTATIONAL CROPPING STUDY - 1986

Ronald F. Krausz and George Kapusta

SUMMARY

The study was established in 1986 at Belleville to evaluate potential carryover damage of DPX-F6025, Command, Scepter, and Pursuit to the rotational crops wheat and corn. Each herbicide was evaluated at five rates, with the highest one being equal to three times the label rate.

None of the herbicides caused any visual injury to the soybeans. Population on June 13 and September 20, height, and yield were equal to or greater than that observed in the Basagran + Blazer standard.

I. INTRODUCTION

Several recently developed soybean herbicides are reported to have an extended soil life. This is desirable for season-long weed control in soybeans but may cause injury to rotational crops planted the same fall or the following spring. This study evaluates potential carryover to the rotational crops wheat and corn. Rates evaluated ranged from less than label rates up to three times the label rate. Soybean injury and yield also were evaluated.

II. HERBICIDES EVALUATED

Basagran 4EC 0.5 lb/A a.i.

Blazer 2L 0.25 lb/A a.i.

DPX-F6025 25 DF at 0.0208, 0.0417, 0.0625, 0.0833, and 0.125 lb/A a.i.

Command 6E at 0.5, 0.75, 1.0, 2.0, and 3.0 lb/A a.i.

Poast 1.53 EC 0.20 lb/A a.i.

Pursuit 1.92EC at 0.047, 0.094, 0.125, 0.188 and 0.28.

Scepter 1.5AS at 0.0625, 0.125, 0.1875, 0.25, and 0.375 lb/A a.i.

---

Petroleum crop oil concentrate

III. GENERAL DATA

1. Location: Belleville Research Center, Area 3W, R.R. 1, Belleville, Illinois.
2. Soil type: Weir silt loam, 1.5% O.M., pH 6.6, CEC 9.
3. Previous crop: Soybeans.
4. Fertilizer: 150-50-150 N-P<sub>2</sub>O<sub>5</sub>-K<sub>2</sub>O.
5. Plot details: 4 rows; 30 ft long, 30" spacing.
6. Planting details: Williams 82 planted 1.0" deep at 60 lb/A on May 20.

7. Spray details: Broadcast applied on all 4 rows in 18 GPA water with CO<sub>2</sub> sprayer, 8002 flat fan tips, 30 PSI for PE, 40 PSI for post applied herbicides.
8. Cultivated once on June 23.
9. Date and area harvested: Study I - 2 rows x 22 ft on September 29; Study II - 2 rows x 22 ft on September 29.
10. Rainfall in inches: April - 1.08; May - 3.63; June - 4.79; July - 3.88; August - 2.78; September - 3.94; October - 6.86.

#### IV. RESULTS AND DISCUSSION

Two adjoining, identical, but independent studies were conducted. One study (I) was to accommodate the rotational crop wheat beginning fall 1986 whereas Study II was to be planted to the rotational crop corn in the spring of 1987. Both Study I and Study II were a randomized complete block design with four replications. However, all data presented in the tables are based on 8 replications since Study I and Study II were both planted in soybeans in 1986. The design was such that in effect there was one study with eight replications.

##### Soybean Population, June 13 (Table 1) and September 20 (Table 2):

Soybean populations ranged from 82,200 to 93,800 plants per acre on June 13 and from 70,700 to 79,800 on September 20. The differences on both dates were not significant, indicating that the herbicides evaluated, even at three times the label rate, did not affect population. Even though the numerical differences were relatively considerable, these differences were random since several of the highest populations occurred at the highest herbicide rates. The decrease in population from June 13, to September 20 is a normal occurrence, reflecting that a specific environment can support only a certain number of plants regardless of the number of viable seeds planted or the number of plants that emerge.

##### Soybean Height (Inches) on September 20 (Table 3):

The height of soybeans on September 20 ranged from 36 to 41 inches. Basagran plus Blazer caused visually evident leafburning of the soybeans in 1986, probably causing the height reduction observed with that treatment. The reasons for the other differences were not significant in most instances. There was no visual injury observed in any of the other treatments.

##### Soybean Yield (Table 4)

Soybean yields ranged from 38 to 47 bu/A and in most instances the differences were not significant. The yield in all of the treatments being investigated was equal to or higher than observed in the Basagran + Blazer check, even where these herbicides were applied at three times the label rate. All plots were free of weeds during the entire season.

##### General

These results clearly indicate that in 1986 soybeans were very tolerant to DPX-F6025, Command, Scepter, and Pursuit at rates three times that recommended on the label. Population, height, and yield were equal to or higher than observed in the Basagran plus Blazer standard.

Table 1. DPX-F6025-Command-Scepter-Pursuit Rotational Cropping Study, 1986.  
So. Ill. Univ., Belleville. Soybean Population on June 13.

Treatment	Lowest	Rate, lb/A a.i.			Highest
	1	2	3	4	5
	----- (Population (000/A), June 13) -----				
Basagran/Blazer <sup>a</sup>	88.5				
Command <sup>b</sup>	88.0	93.8	89.0	87.9	86.8
Scepter <sup>c</sup>	91.6	89.1	87.1	91.3	82.2
Pursuit <sup>d</sup>	92.7	90.9	89.5	89.0	91.9
DPX-F6025 <sup>e</sup>	85.3	87.2	90.5	89.2	87.1

P = 0.25; CV = 10.8.

<sup>a</sup>Rate of Basagran/Blazer = 0.5 + 0.25.

<sup>b</sup>Rates of Command = 0.5, 0.75, 1.0, 2.0, and 3.0.

<sup>c</sup>Rates of Scepter = 0.0625, 0.125, 0.1875, 0.25 and 0.375.

<sup>d</sup>Rates of Pursuit = 0.047, 0.094, 0.125, 0.188, and 0.28.

<sup>e</sup>Rates of DPX-F6025 = 0.0208, 0.0417, 0.0625, 0.0833 and 0.125.

Table 2. DPX-F6025-Command-Scepter-Pursuit Rotational Cropping Study, 1986.  
So. Ill. Univ., Belleville. Soybean Population on September 20.

Treatment	Lowest	Rate, lb/A a.i.			Highest
	1	2	3	4	5
	----- (population (000/A), June 20) -----				
Basagran + Blazer <sup>a</sup>	72.6				
Command <sup>b</sup>	72.7	79.8	78.1	72.3	75.5
Scepter <sup>c</sup>	76.2	78.0	77.0	77.1	70.7
Pursuit <sup>d</sup>	77.4	76.2	76.4	76.4	74.5
DPX-F6025 <sup>e</sup>	75.3	73.4	77.2	71.4	72.3

P = 0.23; CV = 12.1 (differences not significant).

<sup>a</sup>Rate of Basagran + Blazer<sup>a</sup> = 0.5 + 0.25.

<sup>b</sup>Rates of Command = 0.5, 0.75, 1.0, 2.0 and 3.0.

<sup>c</sup>Rates of Scepter = 0.0625, 0.125, 0.1875, 0.25 and 0.375.

<sup>d</sup>Rates of Pursuit = 0.047, 0.094, 0.125, 0.188 and 0.28.

<sup>e</sup>Rates of DPX-F6025 = 0.0208, 0.0417, 0.0625, 0.0833 and 0.125.

Table 3. DPX-F6025-Command-Scepter-Pursuit Rotational Cropping Study, 1986.  
So. Ill. Univ., Belleville, Soybean Height on September 20.

Treatment	Lowest	Rate, lb/A a.i.			Highest
	1	2	3	4	5
----- (Soybean height, inches, on September 20) <sup>a</sup> -----					
Basagran/Blazer <sup>b</sup>	37 cd				
Command <sup>c</sup>	39 a-d	38 a-d	38 a-d	38 a-d	36 d
Scepter <sup>d</sup>	39 a-d	38 a-d	38 a-d	41 ab	39 a-d
Pursuit <sup>e</sup>	36 d	38 a-d	37 bcd	38 a-d	41 abc
DPX-F6025 <sup>f</sup>	38 a-d	37 bcd	38 a-d	41 a	39 a-d

<sup>a</sup>Values followed by one or more like letters are not different at 5%.

<sup>b</sup>Rate of Basagran/Blazer = 0.5 + 0.25.

<sup>c</sup>Rates of Command = 0.5, 0.75, 1.0, 2.0 and 3.0.

<sup>d</sup>Rates of Scepter = 0.0625, 0.125, 0.1875, 0.25 and 0.375.

<sup>e</sup>Rates of Pursuit = 0.047, 0.094, 0.125, 0.188 and 0.28.

<sup>f</sup>Rates of DPX-F6025 = 0.0208, 0.0417, 0.0625, 0.0833 and 0.125.

Table 4. DPX-F6025-Command-Scepter-Pursuit Rotational Cropping Study, 1986.  
So. Ill. Univ., Belleville. Soybean Yield.

Treatment	Lowest	Rate, lb/A a.i.			Highest
	1	2	3	4	5
----- (Soybean yield, bu/A) <sup>a</sup> -----					
Basagran + Blazer <sup>b</sup>	40 c				
Command <sup>c</sup>	41 bc	41 bc	42 abc	47 ab	38 c
Scepter <sup>d</sup>	42 bc	43 abc	41 c	47 ab	43 abc
Pursuit <sup>e</sup>	40 c	42 abc	41 bc	42 abc	46 ab
DPX-F6025	42 abc	41 bc	44 abc	47 a	44 abc

<sup>a</sup>Values followed by one or more like letters are not different at 5%.

<sup>b</sup>Rate of Basagran + Blazer = 0.5 + 0.25.

<sup>c</sup>Rates of Command = 0.5, 0.75, 1.0, 2.0 and 3.0.

<sup>d</sup>Rates of Scepter = 0.0625, 0.125, 0.1875, 0.25 and 0.375.

<sup>e</sup>Rates of Pursuit = 0.047, 0.094, 0.125, 0.188 and 0.28.

<sup>f</sup>Rates of DPX-F6025 = 0.0208, 0.0417, 0.0625, 0.0833 and 0.125.

The highest rate of each of the herbicides is approximately three times the label rate.

TERMINOLOGY FOR HERBICIDES IN THIS REPORT

Common Name or Code Number	Trade Names	Company
AC 263,499 (imazethapyr)	Pursuit	American Cyanamid
Acetochlor	Harness	Monsanto
Acifluorfen	Blazer, Tackle	Rohm and Haas, Rhone-Poulenc
Alachlor	Lasso	Monsanto
Atrazine	AAtrex	CIBA-Geigy
BAS-51400 (quinclorac)	--	BASF
BAS-51702 (cycloxydim)	--	BASF
Bromoxynil	Brominal, Buctril	Union Carbide, Rhone-Poulenc
Butylate + dichlormid	Sutan+	Stauffer
Chloramben	Amiben	Union Carbide
Cinmethylin	Cinch	Shell
Clopyralid	Lontrel	Dow
Cyanazine	Bladex	Shell
2,4-D butoxyethyl ester	Weedone LV4	Union Carbide
2,4-DB	Butyrac 200	Union Carbide
Dicamba	Banvel	Sandoz
Dicamba + atrazine	Marksman	Sandoz
DPX-F6025 (chlorimuron ethyl)	Classic	DuPont
DPX-L8347	Canopy	DuPont
DPX-Y6202	Assure	DuPont
EPTC	Eptam	Stauffer
EPTC + dichlormid	Eradicane	Stauffer
Ethalfuralin	Sonalan	Eli Lilly
Fenoxaprop	Whip	Hoechst
Fluazifop-P	Fusilade 2000	ICI
Fluroxypyr	Starane	Dow
FMC-57020	Command	FMC
Fomesafen	Reflex	ICI
Glufosinate	Ignite	Hoechst
Glyphosate	Roundup	Monsanto
Glyphosate + alachlor	Bronco	Monsanto
Haloxypop	Verdict	Dow
Imazaquin	Scepter	Cyanamid
Lactofen	Cobra	PPG
Linuron	Lorox, Linex	DuPont, Griffin
Metolachlor	Dual	CIBA-Geigy
Metribuzin	Sencor, Lexone	Mobay, DuPont
MFR 0184	Turbo	Mobay
Oryzalin	Surflan	Elanco
Paraquat	Gramoxone	ICI
Pendimethalin	Prowl	American Cyanamid
RE-45601	Select	Chevron
Sethoxydim	Poast	BASF
Simazine	Princep	CIBA-Geigy
Tridiphane	Tandem	Dow

WEED NAMES AND CODES

Abbreviation	Common Name	Botanical Name
Bucu	Burcucumber	<u>Sicyos angulatus</u>
Bygr	Barnyardgrass	<u>Echinochloa crus-galli</u>
Cath	Canada thistle	<u>Cirsium arvense</u>
Cocb	Common cocklebur	<u>Xanthium strumarium</u>
Coch	Common chickweed	<u>Stellaria media</u>
Coda	Common dandelion	<u>Taraxacum officinale</u>
Colq	Common lambsquarters	<u>Chenopodium album</u>
Corw	Common ragweed	<u>Ambrosia artemisiifolia</u>
Cosf	Common sunflower	<u>Helianthus annuus</u>
Ebns	Eastern black nightshade	<u>Solanum ptycanthum</u>
Fapa	Fall panicum	<u>Panicum dichotomiflorum</u>
Gift	Giant foxtail	<u>Setaria faberi</u>
Girw	Giant ragweed	<u>Ambrosia trifida</u>
Grft	Green foxtail	<u>Setaria viridis</u>
Howe	Horseweed	<u>Conyza canadensis</u>
Ilmg	Ivyleaf morningglory	<u>Ipomoea hederacea</u>
Jiwe	Jimsonweed	<u>Datura stramonium</u>
Lacg	Large crabgrass	<u>Digitaria sanguinalis</u>
Pesw	Pennsylvania smartweed	<u>Polygonum pennsylvanicum</u>
Prsi	Prickly sida	<u>Sida spinosa</u>
Rrpw	Redroot pigweed	<u>Amaranthus retroflexus</u>
Shca	Shattercane	<u>Sorghum bicolor</u>
Shpu	Shepherdspurse	<u>Capsella bursa-pastoris</u>
Smgc	Smooth groundcherry	<u>Physalis subglabrata</u>
Smpw	Smooth pigweed	<u>Amaranthus hybridus</u>
Tamg	Tall morningglory	<u>Ipomoea purpurea</u>
Vele	Velvetleaf	<u>Abutilon theophrasti</u>
Vema	Venice mallow	<u>Hibiscus trionum</u>
Yeft	Yellow foxtail	<u>Setaria glauca</u>

RAINFALL SUMMARY FOR THE MONTH OF APRIL

Date	DeKalb	Elwood	Monmouth	Orr	Urbana
1	0.07	0	0.01	T	0
2	0	0	0	0	0.18
3	0.03	0.13	0.17	0.34	0.14
4	0.04	0	0.01	T	0
5	0.11	0	0.05	0.06	0
6	0	0	0	0	0
7	0	0	0	0	0
8	T	0	0	0	0
9	0	0	0	0	0
10	0	0	0	0	0
11	0	0	0	0	0
12	0.12	0	0	0	0
13	0	0.03	0.08	0.04	0.12
14	0.37	T	0.38	0.29	0.03
15	0.07	0.35	T	T	0.25
16	0	0.03	T	0.18	0.03
17	0	0	0	0	0.01
18	0	0	0	0	0
19	0	0	T	0.05	0
20	0	0	0	0	0.11
21	0	0.03	T	0.04	0.08
22	0	0.02	0	0	0.02
23	0	0	0	0	0
24	0	0	0	0	0
25	0	0	0	0.03	0
26	T	0	0.04	0	0
27	0	0	0	0	0
28	0.24	0.03	0.13	0.15	0.08
29	0.25	T	T	0	0
30	0.52	0.31	0.19	0	0.04
TOTALS	1.82	0.93	1.06	1.18	1.09

RAINFALL SUMMARY FOR THE MONTH OF MAY

Date	DeKalb	Elwood	Monmouth	Orr	Urbana
1	0	0.02	0.52	0.77	1.50
2	0	0	0	0	0
3	0	0	0	0	0
4	0	0	0	0	0
5	0	0	0	0	0
6	0	0.02	0.10	0	0
7	T	0	0.27	0	0.30
8	0	0	0.02	0	0
9	0	0	0	0.04	0
10	0	0	0	0.12	0
11	0.03	0	0.02	0.06	0
12	0	0.02	0	0	0
13	0.48	0	T	0.05	0
14	0.03	0.19	0.09	T	0.10
15	0.43	0	0.05	0.15	0.05
16	0	0.17	0.11	0.31	0.34
17	3.17	0.33	1.62	0.32	0.02
18	0.10	0.40	1.04	0.33	0.27
19	0.06	0.09	0	0.02	0.12
20	0	0	0	0	0
21	0	0	0	0	0
22	0	0	0	0	0
23	0	0	0	0	0
24	0	0	0	0	0
25	0	0	0	0	0
26	0.64	0	0.55	0.07	0.23
27	0	1.44	0.27	T	0.03
28	0.01	0.02	T	0	0
29	0.29	0.24	0.01	T	1.32
30	T	0	0.02	0.33	0
31	T	0	0	0	0
TOTALS	5.24	2.94	4.68	2.57	4.28

RAINFALL SUMMARY FOR THE MONTH OF JUNE

Date	DeKalb	Elwood	Monmouth	Orr	Urbana
1	0	0	0	0	0
2	0	0	0	0	0
3	0	0	0	0	0
4	0	0	0.03	0	0
5	0.16	0.15	0.34	0.02	0.04
6	0	0	0.20	T	0.95
7	0	0.10	0.25	1.55	0.56
8	0	1.07	0	T	0.06
9	0	0	0	T	0
10	0.67	0.02	0.10	0.20	0.25
11	0.08	0	0	T	0
12	0.03	0	0.04	0	0
13	0	0	0	0	0
14	0.57	0.06	0	0	0
15	0	0.93	0.35	1.18	0.17
16	0.30	0.03	T	0	0
17	0	0	0	0	0
18	0	0	0	0	0
19	0	0	0	0	0
20	0	0	0	0	0
21	0	0	0	0	0
22	0.37	0	0.05	0	0
23	0.01	0	0.21	0	0
24	0	0	0.02	0	0
25	0	0	0	0	0
26	T	0	0	0	0
27	0.28	0	0	0	0
28	0	1.03	0.16	1.04	1.21
29	0	0	0.01	0	0
30	1.03	0.57	1.13	T	1.10
TOTALS	3.50	3.96	2.88	3.99	4.34

AIR TEMPERATURES FOR APRIL - 1986

Date	DeKalb		Elwood		Monmouth		Orr		Urbana	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1	36	59	58	84	51	81	54	82	57	82
2	27	58	34	62	36	63	41	69	36	66
3	38	62	40	61	44	64	50	67	43	63
4	40	63	44	70	46	67	49	76	49	77
5	47	70	53	76	52	74	54	76	52	75
6	38	50	45	76	39	71	44	75	50	78
7	33	72	35	62	40	65	44	74	40	72
8	34	54	38	80	41	79	47	81	46	82
9	31	54	33	60	35	60	37	60	36	61
10	27	58	27	57	31	59	34	59	33	58
11	26	64	27	63	35	65	40	64	34	63
12	32	57	36	68	44	70	40	71	39	69
13	35	58	36	65	41	66	46	75	41	75
14	30	48	49	64	40	69	50	69	49	70
15	28	46	31	55	27	48	33	52	31	60
16	36	47	31	42	30	45	36	42	34	42
17	32	58	33	48	33	55	38	55	36	48
18	33	64	35	62	44	63	43	63	43	62
19	43	62	54	70	41	65	49	63	48	70
20	39	58	47	71	46	67	49	69	49	69
21	24	39	38	58	39	65	40	63	43	56
22	22	49	22	42	24	47	28	63	29	50
23	26	64	21	50	28	55	30	55	31	52
24	39	80	44	65	47	69	51	68	42	63
25	50	90	51	82	59	81	63	83	52	80
26	57	88	58	91	57	93	60	90	56	89
27	54	87	58	91	54	89	58	87	50	89
28	43	66	56	89	46	86	46	85	53	91
29	40	75	45	58	38	53	45	63	38	52
30	54	62	53	77	50	81	62	83	60	79

AIR TEMPERATURES FOR MAY - 1986

Date	DeKalb		Elwood		Monmouth		Orr		Urbana	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1	40	56	50	66	48	67	51	79	54	68
2	35	54	36	63	38	67	40	79	44	66
3	32	60	31	60	36	60	40	63	38	58
4	44	75	44	63	47	68	50	68	42	69
5	52	78	56	76	42	81	58	78	51	75
6	60	77	63	83	59	82	67	81	68	87
7	50	77	57	84	56	77	58	84	62	84
8	45	75	45	75	54	80	64	87	54	83
9	47	76	47	79	57	82	64	88	55	82
10	45	77	45	78	57	75	58	76	51	77
11	52	70	55	82	59	76	60	73	62	82
12	53	70	55	75	55	73	52	73	61	72
13	48	76	49	72	61	83	58	83	55	80
14	52	66	54	81	50	80	51	78	56	82
15	50	64	52	70	57	77	65	79	62	78
16	57	72	60	70	52	70	52	72	57	74
17	48	66	60	77	59	74	61	78	67	79
18	46	61	46	81	52	66	53	77	49	81
19	40	56	48	57	46	65	45	66	47	54
20	36	59	37	59	42	66	45	67	40	59
21	43	63	46	62	39	65	40	65	42	62
22	42	57	43	66	45	68	42	70	44	64
23	44	66	44	66	47	70	51	74	49	73
24	44	70	44	70	47	73	54	76	53	75
25	52	74	54	78	54	75	56	79	53	80
26	54	66	58	73	57	77	59	71	60	75
27	55	65	56	68	58	63	58	66	63	66
28	55	72	56	73	56	73	54	78	62	76
29	58	76	58	78	60	73	54	78	63	78
30	56	78	57	81	58	79	55	81	63	78
31	59	84	61	82	60	80	57	81	62	82

AIR TEMPERATURES FOR JUNE - 1986

Date	DeKalb		Elwood		Monmouth		Orr		Urbana	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1	46	85	66	87	63	84	61	85	67	85
2	42	63	46	89	46	88	53	87	53	88
3	40	76	43	66	48	71	44	74	48	71
4	53	80	55	78	48	80	58	82	58	79
5	56	69	64	80	65	83	69	84	62	86
6	56	66	57	65	62	70	69	86	66	80
7	58	78	60	75	61	76	67	83	69	82
8	56	80	61	81	62	83	68	83	67	82
9	50	80	51	79	59	81	64	85	63	86
10	63	82	65	80	63	80	64	78	67	78
11	57	80	67	87	67	89	68	88	71	86
12	52	62	55	85	54	81	62	80	60	85
13	54	76	58	65	54	74	58	74	52	66
14	53	62	56	78	61	82	63	86	58	84
15	55	73	53	73	62	72	64	85	65	83
16	55	78	65	80	64	81	66	86	69	85
17	48	72	52	85	53	86	57	88	58	88
18	52	78	50	73	61	81	57	79	53	77
19	64	90	61	82	65	86	63	85	62	81
20	63	84	61	92	65	92	66	90	66	90
21	61	87	65	87	68	91	64	90	68	95
22	64	81	70	93	68	91	69	91	71	94
23	54	78	59	87	57	84	63	87	67	92
24	50	72	56	84	56	81	63	82	62	83
25	45	76	38	70	51	76	52	80	46	77
26	57	88	54	77	59	80	53	87	57	79
27	70	79	68	91	73	91	76	91	69	90
28	64	83	68	86	69	87	68	90	70	93
29	60	81	61	87	65	88	64	88	69	87
30	--	--	59	84	65	79	69	86	62	85

HUMIDITY FOR APRIL - 1986

Date	DeKalb		Elwood		Monmouth		Orr		Urbana	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1	29	72	40	100	30	100	28	60	26	68
2	29	100	40	100	28	100	34	100	62	100
3	56	96	40	100	34	100	36	100	38	100
4	50	100	58	100	60	100	48	100	38	100
5	32	98	53	100	44	100	46	100	50	100
6	64	92	38	100	34	100	29	100	28	100
7	20	96	70	100	44	100	36	100	28	100
8	36	50	36	98	28	82	35	100	24	70
9	24	84	40	98	32	90	35	84	28	96
10	24	64	38	100	32	82	38	86	20	94
11	22	80	25	98	24	97	32	88	20	80
12	28	92	24	98	26	97	33	100	22	80
13	45	94	42	100	54	99	44	100	28	100
14	54	99	56	94	44	100	56	100	30	100
15	82	93	72	100	60	100	48	100	50	100
16	63	97	86	100	62	100	87	100	60	100
17	35	95	82	100	58	100	60	100	46	100
18	35	93	35	100	36	93	50	90	48	100
19	35	87	52	98	48	98	60	100	34	92
20	34	71	40	100	30	80	36	100	38	100
21	43	97	76	100	34	88	46	100	64	100
22	44	65	58	100	48	98	60	100	48	100
23	19	67	34	100	20	57	24	92	20	74
24	31	65	26	72	28	74	33	74	20	70
25	27	79	42	100	38	90	42	76	28	100
26	21	73	42	100	30	82	35	88	64	88
27	23	66	30	98	34	88	36	92	50	82
28	53	97	34	100	42	100	48	100	55	100
29	46	96	74	100	63	100	46	100	70	100
30	65	97	36	100	28	100	30	96	49	80

HUMIDITY FOR MAY - 1986

Date	DeKalb		Elwood		Monmouth		Orr		Urbana	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1	41	86	82	100	54	100	72	100	55	100
2	30	94	54	100	42	98	36	100	32	92
3	23	89	42	100	36	100	40	100	36	100
4	27	69	32	92	28	62	36	81	26	84
5	39	57	44	72	28	60	36	70	28	100
6	43	97	52	98	50	100	58	98	36	88
7	28	98	58	98	56	100	56	100	46	100
8	33	78	36	98	54	88	47	100	54	100
9	29	80	44	98	48	82	54	100	44	92
10	28	90	40	98	49	88	62	100	38	100
11	50	95	40	98	48	100	61	100	28	90
12	49	93	68	100	66	100	76	100	68	100
13	35	95	60	100	36	88	46	100	52	84
14	57	98	40	100	42	100	52	100	46	100
15	--	95	80	100	34	100	33	100	26	100
16	--	--	--	100	75	100	74	100	60	100
17	--	--	64	100	48	100	78	100	68	100
18	--	--	74	100	78	100	74	100	50	100
19	--	--	80	100	46	100	49	100	88	100
20	40	79	61	100	52	100	66	100	58	100
21	35	87	46	100	39	100	42	100	38	100
22	35	85	49	100	28	100	38	100	42	100
23	47	91	54	100	33	100	31	100	26	100
24	30	94	50	100	37	88	50	100	36	100
25	33	75	42	98	58	96	54	100	34	90
26	49	90	56	100	52	100	69	100	46	100
27	90	98	88	100	92	100	90	100	96	100
28	48	93	92	100	62	100	41	100	48	100
29	39	92	60	100	70	100	50	100	48	100
30	38	91	64	100	50	100	56	100	54	100
31	33	89	58	100	50	100	55	90	44	100

HUMIDITY FOR JUNE - 1986

Date	DeKalb		Elwood		Monmouth		Orr		Urbana	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
1	29	75	52	98	44	100	56	100	38	100
2	29	78	47	100	36	92	42	91	36	100
3	54	76	48	100	38	92	36	100	32	82
4	60	94	38	100	40	100	46	100	32	94
5	82	100	84	100	64	100	60	100	50	100
6	82	99	100	100	94	100	57	100	56	100
7	53	98	100	100	85	100	60	100	66	100
8	38	96	84	100	54	100	60	100	56	100
9	44	64	60	100	50	92	56	100	46	90
10	70	100	70	100	70	100	80	100	76	100
11	57	100	74	100	49	100	62	98	66	100
12	72	100	68	100	60	100	60	96	46	100
13	36	98	98	100	56	100	56	100	78	100
14	76	100	60	100	38	100	42	98	50	100
15	69	99	100	100	76	100	58	98	56	100
16	42	100	88	100	68	100	55	90	52	100
17	42	95	52	100	34	100	44	100	38	100
18	43	99	46	100	40	100	42	97	38	86
19	32	92	60	100	45	100	44	96	46	92
20	44	90	67	100	46	100	41	98	46	100
21	39	86	60	98	36	100	50	100	32	100
22	54	94	56	98	44	100	46	88	38	100
23	36	96	64	100	56	100	60	96	48	100
24	47	92	42	100	36	100	40	90	38	100
25	33	100	68	100	42	100	38	90	48	94
26	48	82	36	100	44	100	42	98	28	92
27	69	94	62	100	53	100	48	96	42	100
28	41	94	88	100	70	100	56	100	56	100
29	44	92	68	100	56	100	54	98	56	100
30	69	92	62	100	72	100	64	98	52	100



MAP SHOWING LOCATIONS OF 1986 WEED SCIENCE RESEARCH STUDIES IN  
ILLINOIS













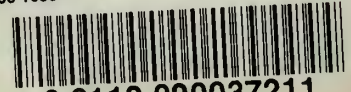
UNIVERSITY OF ILLINOIS-URBANA

632.5816

C001

ILLINOIS WEED CONTROL RESEARCH REPORT U

1986 1986



3 0112 020037211